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SEP 1910

OFFICIAL ORGAN OF THE NORTHWEST FRUIT GROWERS ASSOCIATION

VOLUME FIVE NUMBER THREE 10 CENTS A COPY DOLLAR A YEAR

BETTER FRUIT

SEPTEMBER 1910

SPECIAL PACKING NUMBER

EXHIBIT OF BENTON COUNTY APPLES AT STATE FAIR
SALEM, OREGON

FOUR BOXES OF EXHIBIT APPLES FROM CORVALLIS,
BENTON COUNTY, OREGON

PUBLISHED BY

BETTER FRUIT PUBLISHING COMPANY

HOOD RIVER, OREGON

Own an Irrigated Fruit Orchard

in the famous

Bitter Root Valley

And Provide an Annuity for Old Age

We will plant and take care of the land during the growing period, turning over to you a bearing orchard, which will thereafter yield a competence for life. Easy terms

Send for Literature

Bitter Root Valley Irrigation Co.

Hamilton, Montana

First National Bank Building, Chicago

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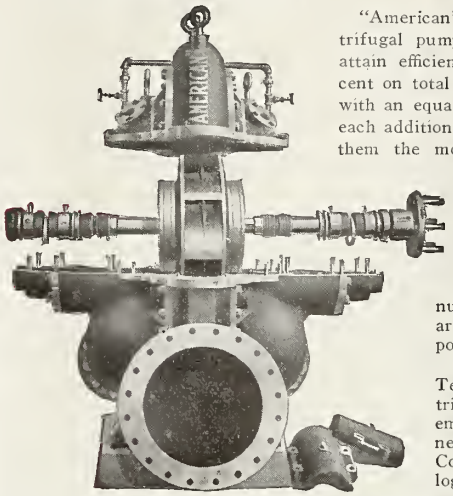
Given by the Alaska-Yukon-Pacific Exposition at Seattle last summer to pumps were awarded to

"AMERICAN" PUMPING MACHINERY



"American" single stage centrifugal pumps are guaranteed to attain efficiencies of 60 to 80 per cent on total heads up to 125 feet, with an equal increase in head for each additional stage, which makes them the most economical pump made for irrigation purposes.

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160 NORTH LOS ANGELES STREET, LOS ANGELES
SECOND AND ASH STREETS, PORTLAND, OREGON
1246 FIRST AVENUE SOUTH, SEATTLE
305 COLUMBIA BUILDING, SPOKANE

SPOKANE VALLEY ORCHARD SCENE

A HOME and an orchard in the Spokane Valley means the apex of the fruit industry in the Northwest. Our Jonathan and Wagener winter apples excel them all. Our beautiful valley, picturesque surroundings, electric lines and steam railroads, lakes and pleasure resorts, all at Spokane's threshold, makes the ideal location. Our prices are low, but are advancing rapidly.

Send for our circular "A Trip Through the Valley"

SPOKANE VALLEY IRRIGATED LAND CO.

401 Sprague Avenue SPOKANE, WASHINGTON

NORTHWESTERN FRUIT EXCHANGE

Executive Offices:

Spalding Building, Portland, Oregon

OFFICERS

President, R. H. PARSONS, of Medford, Oregon, Vice President Rogue River Fruit and Produce Association.

Vice President, M. HORAN, of Wenatchee, Washington, President North Central Washington Development League.

Vice President, W. N. IRISH, of North Yakima, Washington, President Yakima County Horticultural Union.

Secretary, C. R. DORLAND, of Portland, Oregon.

Treasurer and General Manager, W. F. GWIN, of Portland, Oregon, Secretary and Treasurer Kenmar Orchard Company.

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W. M. RICHARDS, Vice President Yakima County Horticultural Union.

A. C. RANDALL, President Talent Orchard Company.

H. M. GILBERT, President Richey & Gilbert Company, Toppenish, Washington.

JOHN S. EVANS, formerly General Manager Fruit Dispatch Company, New York.

THE NORTHWESTERN FRUIT EXCHANGE has been organized for the purpose of **uniting the interests of the whole fruit-producing Northwest;** to adopt a system of marketing the Northwestern fruit throughout the markets of the United States and Canada; to establish and maintain direct representation in the markets of Europe, and to develop the demand and establish direct connections in the Orient, Hawaii, the Philippines, Japan, China, Russia and Australia.

Operating through a system of branch sales offices, in charge of **salaried managers,** the most comprehensive development of the demand can be accomplished, **and in this manner only** can the highest possibilities of the fruit industry be achieved.

The Exchange urges the individual shippers at all points to organize themselves into local associations, by means of which a standard, uniform pack and grade may be achieved, and brands adopted which may be advertised and established in the markets of the world, representing a definite standard of value to the absent buyer, thereby making it possible to market the fruit f.o.b. shipping point. The following well known growers' associations have arranged with the Northwestern Fruit Exchange to market their products: Ashland Fruit and Produce Association, Ashland, Oregon; Dalles Fruit Growers' Association, The Dalles, Oregon; Dufur Valley Fruit Growers' Union, Dufur, Oregon; Yakima County Horticultural Union, North Yakima, Washington; Cashmere Fruit Growers' Union, Cashmere, Washington; Walla Walla Fruit and Vegetable Union, Walla Walla, Washington; Stevens County Fruit Growers' Union, Myers Falls, Washington; Caldwell Fruit Growers' and Producers' Association, Caldwell, Idaho.

The Exchange wishes to go on record in the statement that with the vast increase in the acreage throughout the Northwest, profitable operations in the future are going to depend on the character of the fruit shipped to the markets. The law of the "survival of the fittest" will surely operate in this business, as in any other, and the Exchange will stand always for the betterment of the product.

The Exchange has already completed arrangements for representation, through **salaried sales agents, in the following markets:**

NEW YORK CITY	DES MOINES, IOWA	BUFFALO, N. Y.
CHICAGO	CINCINNATI	MINNEAPOLIS, MINN.
PITTSBURG, PA.	WASHINGTON, D. C.	PORTLAND, OREGON
	JACKSONVILLE, FLA.	

Between now and the time for the shipment of fall apples, branch offices will be established at a number of other cities in the West and Southwest—in Texas, Oklahoma and other states which have never been adequately covered in the past.

An **organized, determined effort** will be made by the Exchange to develop the demand for Northwest fruits, first throughout the United States and Canada, and then in foreign countries.

The Northwestern Fruit Exchange is managed by its Board of Directors, comprising a number of the best known fruit growers in the whole Northwest; the administration of the affairs of the Exchange will be in the hands of these men, solely, and every move made will be made in the interest of every man connected with the industry.

The Northwestern Fruit Exchange offers its facilities for the season of 1910 to such associations or groups of growers who will undertake to live up to its specifications and instructions in regard to the gathering, packing and grading of the fruit—who realize the importance of properly preparing their fruit for the market, and who stand ready to support and co-operate in a movement which is conceived in the interest of the whole industry.

ADDRESS ALL COMMUNICATIONS TO

Northwestern Fruit Exchange

908, 910, 911, 912 Spalding Building PORTLAND, OREGON

BRANCH OFFICE:

NORTH YAKIMA, WASHINGTON, MR. B. U. YOUNG, MANAGER

OTHER REPRESENTATIVES:

W. R. Johnston, Cashmere, Washington B. R. Wellford, Wenatchee, Washington

T. T. Gwin, Jr., Boise, Idaho

Steinhardt & Kelly

101 Park Place, New York

The "Quality" Fruit House of America

Purveyors
to the Highest Class Consuming Clientele on Both Hemispheres

The largest and most extensive fruit concern in the world operating in all the fruit growing sections of the civilized globe

STEINHARDT & KELLY Handle More

BOX APPLES

Than any Other Concern in the Country

and was the first fruit house to extensively introduce the Northwestern product to the consumers of the East. With able representation in all the leading markets Steinhardt & Kelly are enabled to handle the entire crops of the most extensive districts with utmost ease and celerity

CORRESPONDENCE WITH ASSOCIATIONS, UNIONS AND INDIVIDUAL GROWERS WILL BE GIVEN PERSONAL ATTENTION

We Want all Shippers of Green and Fresh Fruits to Write Us

Auction Facilities Unequalled by Any House in America

THE B. PRESLEY CO.

ST. PAUL, MINNESOTA

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We handle thousands of cars of fruit yearly, apples, pears, peaches, prunes, etc.

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92 COMMERCIAL STREET
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Apples for American and Foreign Markets

AGENTS FOR

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SHIPMENTS FORWARDED FROM BOSTON OR NEW YORK

Market quotations and full particulars on application

Correspondence invited

Best Service and Protection is Secured by Dealing with Members of the

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NATIONAL LEAGUE OF COMMISSION MERCHANTS OF THE UNITED STATES · ORGANIZED JANUARY 1895 · TRADE MARK REGISTERED

AN ORGANIZATION OF RELIABLE AND RESPONSIBLE RECEIVERS IN TWENTY-EIGHT MARKETS
FOR FREE DIRECTORY OF MEMBERS, WRITE R. E. HANLEY, PUB. MGR., BUFFALO, NEW YORK

FRUIT SHIPPED TO

Fliegler & Co.

St. Paul, Minnesota

Has the assurance of being handled with the highest standard of efficiency in all departments of an exclusive fruit house.

LET US KEEP YOU POSTED ON THE ST. PAUL MARKET—IT WILL PAY YOU

Alpine Orchard Tracts

Are selling fast. Our prices, terms and location are right. We have a booklet with handsome cover giving you information about these, also a catechism of questions and answers concerning Apple Orchard Lands, and a pamphlet showing many ways of making money while the trees are coming into bearing. If you are a prospective customer we would be pleased to send these to you.

OREGON APPLE ORCHARDS CO.

804-5 Lewis Building Portland, Oregon

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Carlot Distributers

Prunes, Apples, Pears, Peaches

We are represented in all large markets throughout the United States

WRITE FOR OUR DISTRIBUTING CONTRACT

Rae & Hatfield

317 Washington Street, New York

Largest Handlers of Pacific Coast Fruits in the East

REPRESENTING THE FOREMOST WESTERN SHIPPING COMPANIES AND ASSOCIATIONS ON THE NEW YORK MARKET

Operating in All Producing Sections

Reliable Experienced Prompt

NEW ORLEANS

The Acknowledged Fancy Fruit House of New Orleans

IMPORTERS JOBBERS

APPEL & UFFY

All Fruits in Season

Wholesale Commission

STORAGE FOR FIFTY CARS

The Largest Wholesale Exclusive Fruit Concern in the South

McEWEN & KOSKEY

Wholesale Fruit and Produce and General Commission Merchants

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Are solicited, all your shipments receiving our personal attention

Gibson Fruit Company

Not Incorporated

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Shippers' Marketing Agents
Fruit and Produce

Our Own Cold Storage Plant on Premises

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LINDSAY & CO. LTD.

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HELENA, MONTANA

Established in Helena Quarter of a Century

Branch houses: Great Falls, Missoula and Billings, Montana

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Spokane, Washington

We have modern cold storage facilities essential for the handling of your products

Reliable Market Reports

PROMPT CASH RETURNS

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Superior facilities for handling

PEACHES APPLES AND PEARS

Solicit Your Consignments

Reliable Market Reports Prompt Cash Returns

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OUR SPECIALTIES ARE APPLES AND PEARS

Richey & Gilbert Co.
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Growers and Shippers of
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Specialties: Apples, Peaches, Pears and Cantaloupes
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Wholesale Fruit and Produce
We Have Modern Cold Storage Facilities Essential for Handling Your Products
A strong house that gives reliable market reports and prompt cash returns

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Consignments solicited with quick returns
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Spitzenbergs, Newtowns, Jonathans, Arkansas Blacks, Ortleys, Baldwins, Winesaps, R. C. Pippins, Ben Davis, M. B. Twigs
Look Good, Taste Better, Sell Best
Grade and Pack Guaranteed
Apple Growers' Union
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FRUITS & PRODUCE
Commission Merchants
SOLICIT YOUR CONSIGNMENTS
Top Prices and Prompt Returns
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Sutton Bros.
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APPLE
SPECIALISTS
We have Apples in our store every day in the year.

SGOBEL & DAY
Established 1869
235-238 West Street NEW YORK
Strictly commission house. Specialists in apples, pears and prunes. Exporters of Newtown Pippins to their own representatives in England
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COMMISSION MERCHANTS
Wholesale Fruits and Produce

We make a specialty
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We handle local or carload shipments of fruit and vegetables. Honest dealings and prompt returns.

References: Exchange National Bank, Spokane; Bradstreets Mercantile Agency.

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Wholesale Dealers in
FOREIGN AND DOMESTIC FRUITS
Branch Offices at Carrington, N. D.
Bismarck, N. D.; Valley City, N. D.
Head Office
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Successors to
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Oldest Established Largest Handlers
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We handle more Box Apples than any concern in Ohio, and want to hear from every grower and shipper who will have either large or small lots to offer. Let us hear from you at once. Our specialty, Box Apples.
Reference: Guide.
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FRUIT & PRODUCE
Growers and Shippers of the Famous
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Rogue River Fruit and Produce Association
C. W. WILMEROTH, *Manager*
Main Office, Medford, Oregon

We will distribute the entire output of the Rogue River Valley—The world's most famous pears—Our Spitzenbergs won first prize in 1909—We use the Revised Economy Code

Loading Stations
Ashland, Medford, Grants Pass, Eagle Point, Gold Hill, Central Point, Talent, Woodville, Phoenix, Voorhies, Merlin and Jacksonville.

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C. R. Paddock, Manager
Apples, Pears, Peaches, Cherries, Plums, Prunes, Apricots, Grapes and Cantaloupes
Mixed carloads start about July 20. Straight carloads in season. Our fruit is the very best grade; pack guaranteed
We use Revised Economy Code

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COMMISSION MERCHANTS
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Members National League Commission Merchants of the United States, International Apple Shippers' Association. The largest handlers of barrel and box apples in Central Illinois.

Grinnell, Collins & Co.
(Incorporated)
Minneapolis, Minnesota
WHOLESALE FRUIT AND PRODUCE
We want the best pack and quality
Apples Pears Peaches
We have modern cold storage facilities
CORRESPONDENCE SOLICITED

We make a specialty of
Western Fruits
APPLES, PEACHES
PLUMS AND PEARS
We have our representative in field
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WHOLESALE DEALER IN
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Established 1878

APPLES FOR EXPORT

California, Oregon, Washington, Idaho and Florida fruits. Apples handled in all European markets. Checks mailed from our New York office same day apples are sold on the other side. We are not agents; we **sell apples.** We make a specialty of handling **APPLES, PEARS AND PRUNES** on the New York and foreign markets. Correspondence solicited.

200 TO 204 FRANKLIN STREET, NEW YORK

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Established 1871

Western Produce

A Specialty

Reference: Any Fruit Association

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SAM HAINES

Apple Merchant

LEADING CONNECTIONS THROUGHOUT EUROPE

97 WARREN STREET NEW YORK

If you want good prices get into touch with me at once. I will market your fruit either in New York or any market in Europe.

Ship Your APPLES ana PEARS to the Purely Commission and Absolutely Reliable House

W. DENNIS & SONS

LIMITED

COVENT GARDEN MARKET
LONDON

and

CUMBERLAND STREET
LIVERPOOL

W. E. BIGALOW, President

Capital and Surplus $75,000.00
Established 1883

H. J. BIGALOW, Secretary and Treasurer

REFERENCES:

The First National Bank, Cleveland
All Commercial Agencies
The Produce Reporter Company
Any reliable house in our line in the United States

THE BIGALOW GLOBE TRADE MARK FRUIT CO.

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The California Growers' Exchange, Los Angeles, Cal.
The California Fruit Distributors.
The Earl Fruit Company.
The Pioneer Fruit Company.
The Producers' Fruit Company, Sacramento, Cal.
The Stewart Fruit Company, San Francisco, Cal.
The Atwood Grape Fruit Company, Manavista, Fla.
The Georgia Fruit Exchange, Atlanta, Ga.
The Florida Citrus Exchange, Tampa, Fla.
Crutchfield & Woolfolk, Pittsburg and Chicago.
Redlands Golden Orange Association, Redlands, Cal.

Commission Merchants *Jobbers and Wholesalers*

Cleveland, Ohio

APPLES

Plums Prunes Pears Oranges Lemons

We have the largest and best trade in the Cleveland territory; our facilities are unsurpassed
We have had years of experience in handling box apples and fancy fruits

WE SOLICIT YOUR CORRESPONDENCE AND SHIPMENTS

CAPITAL AND SURPLUS $300,000.00

GAMBLE-ROBINSON COM. CO.

Incorporated
MINNEAPOLIS, MINNESOTA

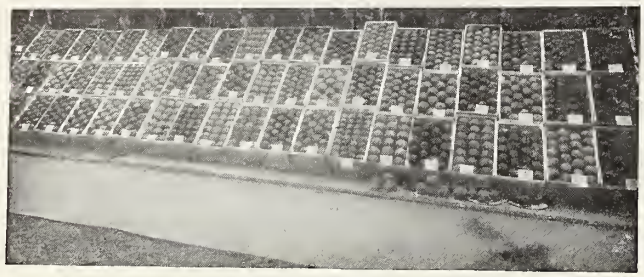
Box Apples Pears Prunes Peaches

We handle over 3,000 cars annually and need heavier supplies

Associate Houses: Gamble-Robinson Co., Oelwein, Iowa; Gamble-Robinson Fruit & Produce Co., Pipestone, Michigan; Gamble-Robinson Fruit & Produce Co., Mankato, Minnesota; Gamble-Robinson Fruit Co., Miles City, Montana; Gamble-Robinson Fruit Co., Aberdeen, South Dakota; Gamble-Robinson Company, Rochester, Minnesota; Gamble-Robinson Fruit Co., St. Paul, Minnesota.

REFERENCES: SECURITY NATIONAL BANK, THE PACKER, DUN AND BRADSTREET

$1000 PER ACRE NET $1000



MOSIER APPLES AT HOOD RIVER FAIR

This is not an unusual profit for producing apple orchards in Oregon. It is a perfectly possible profit for any man of persistence and common sense who will select land in a proven apple district in Oregon and develop it properly. If you are at all interested in fruit growing we advise you to investigate the Mosier Valley. This valley adjoins the famous Hood River Valley, and is properly a part of it, so far as the character of the soil and the quality of the fruit produced is concerned. We claim that the apples produced in Mosier Valley are second to none and that there is no section anywhere which offers the fruit grower a greater opportunity. Land in the Mosier Valley can be obtained for very low prices, and can be cleared with comparatively little effort. These lands can be made to increase in value from 100 to 500 per cent in two years by clearing and planting trees. We invite the most careful and critical inspection of Mosier Valley, confident of the outcome. *For full particulars about this Valley address*

SECRETARY MOSIER VALLEY COMMERCIAL CLUB

MOSIER, OREGON

COME TO MOSIER NOW

For now, as at no other time in the year, will we be able to show you what the Mosier country can do in the raising of the finest Spitzenberg and Yellow Newtown apples on earth.

While the highest prices are paid for the MOSIER APPLES, still good land may be had here at a LOWER PRICE than in any other PROVEN APPLE DISTRICT in the Pacific Northwest.

One of the largest apple-buying firms in the United States—Sgoble & Day, New York—says: "AS FAR AS SPITZENBERGS ARE CONCERNED, WE CAN ONLY REPEAT WHAT WE HAVE TOLD YOU, i.e., WE CONSIDER YOU HAVE THE FINEST SPITZENBERG GROWN IN THE UNITED STATES."

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D. D. HAIL, REAL ESTATE, MOSIER, OREGON

NO TROUBLE TO ANSWER QUESTIONS

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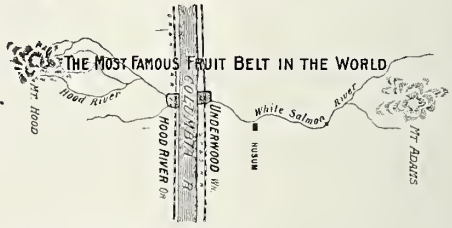
The Gateway to the Famous White Salmon Valley

If you want a strictly first-class location for growing high-grade fruit, close to the river and railroad, within sight of the town of Hood River, with the best of everything in the way of shipping and social advantages, call on or write



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LOS MOLINOS IRRIGATED LANDS

Secure a self-supporting home **that will pay for itself in three years,** in a charming California valley. With our ten months' growing season you can put **two summers into one!**

Our fruit and vegetables are shipped East with big profits, giving **double results** obtained elsewhere.

We cut alfalfa **six times each year,** netting $60.00 **per acre.**

Our lands are now selling at $150.00 per acre, with perpetual water right for irrigation.

No damaging frosts! Cheap river and rail transportation!

Buy now and take advantage of low prices. This is an **unusual opportunity to become independent.**

WRITE US FOR FREE BOOKLET

LOS MOLINOS LAND COMPANY

LOS MOLINOS, TEHAMA COUNTY, CALIFORNIA

"THE LAND WHERE THE RAIN AND SUNSHINE MEET"

LYLE, WASHINGTON

A YOUNG ORCHARD NEAR LYLE

A land wonderfully favored in climate, soil and environment. Apples and all tree fruits grow to perfection without irrigation. Lands for wheat raising, hay and dairy farms. Also for small fruits.

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LYLE COMMERCIAL CLUB

Lyle, Washington

Lyle Fruit Lands

Where "The Rain and Sunshine Meet"

First Prize at the National Apple Show

Across the Columbia from the famous Hood River, Oregon, orchards. Apples, pears, peaches, without irrigation. Unsurpassed soil, climate and scenery. Also wheat land and stock ranches. Write or call on

MORGINSON, DAYTON & CLARK

Lyle, Washington

A LYLE APPLE TREE IN BLOSSOM

Hood River as an Apple Producing Country

There are 10,000 acres of apple orchards in Hood River Valley and only 1,000 acres are bearing. Improved land is selling here NOW from $800 to $2,000 per acre and raw land from $60 to $500.

What will be the value of these orchards in five years from now? Reason this out for yourself: One orchard of eleven acres in one season netted its owner $4,000; another, from 346 trees, in one season brought $4,700; still another, of thirty acres, in 1908 netted its owner $11,332.

Isn't this a fair rate of interest to receive for such a small investment? Looks rather large, doesn't it? If you are interested in orchard lands, drop up a card and we will send you booklet and literature which contains some very interesting facts concerning this wonderful little valley.

JOHN LELAND HENDERSON, Inc., Hood River, Oregon

Dealers in First-class Real Estate H. N. HACKETT, Sales Manager

Arcadia Orchards Company–Irrigated Orchards

The Land of Sunshine *The Center of the Best Fruit Belt in Washington*

Only twenty-two miles from Spokane. Excellent transportation facilities, ideal climate, irrigation by gravity

Our Plan: We plant, cultivate, irrigate and care for your orchard for four years, and pay your taxes for five years. You may remain at your present occupation while we bring your orchard to bearing. No charge for water. The largest private irrigation project in the West. Buy now, before a further increase in values. Easy terms. Send for literature.

ARCADIA ORCHARDS COMPANY Hyde Building, SPOKANE, WASHINGTON

White Salmon Valley

WASHINGTON

Across the river from Hood River Valley, Oregon in the Banner Apple Belt of the World

The WHITE SALMON VALLEY today presents OPPORTUNITIES FOR INVESTMENT beyond that of any other FRUIT REGION in the Northwest. It is the north half of a LARGE VALLEY lying between Mount Adams on the north and Mount Hood on the south. The mighty Columbia flows between and divides this valley. From the Columbia River to Mount Hood forms the Hood River Valley, and from the Columbia River to Mount Adams forms the White Salmon Valley. Both these mountains are snowclad all the year and influence the climatic conditions. This, together with a volcanic ash soil, produces apples that are superior to all others in the world in FLAVOR, SIZE, COLOR, and, most important of all, KEEPING AND SHIPPING QUALITIES.

Ninety per cent of the fruit grown in this valley is exported, bringing the highest market prices.

THE CLIMATE of this region i sideal. It is located in the midst of the CASCADES, with a pure mountain air and free from excessive rains or drouth. The snow-covered peaks at either end of the valley temper the heat of summer and make the summer nights cool and invigorating. The winters are as a rule mild and short. The scenery is as fine as may be found anywhere on the continent.

The valley has been held back heretofore through lack of railroad transportation, but the SPOKANE, PORTLAND & SEATTLE RAILROAD, part of the Hill system, now in operation, gives this valley the best of shipping facilities.

NOW IS THE TIME TO SECURE A CHOICE ORCHARD TRACT AT A LOW FIGURE. Write today for particulars of this wonderful valley to the

WHITE SALMON VALLEY DEVELOPMENT LEAGUE **White Salmon, Washington**

White Salmon Orchard Lands

AT LOW PRICES

The "WHITE SALMON" VALLEY offers as good an investment for the man with little means as the man of wealth. Fortunately this district is not bought up by speculators; small tracts of ten acres or more can be bought on easy terms direct of us, we acting as agents for the original homesteaders in many cases. Below we quote a few special tracts that are BARGAINS. Our complete list sent on request.

550A—20 ACRES, with 12½ acres under plow, 10 acres in young Spitzenberg and Yellow Newtown apples, 3 acres in bearing strawberries; house, stable and well; red shot soil. Only two miles from White Salmon. Price $325 an acre; one-third cash, balance 3 years, 8 per cent.

580—10 ACRES, 2 miles out; flowing spring water. Cheap at $125 an acre. Cheapest small tract, so near town, on the market.

562—40 ACRES, with 4 acres cleared and set to Spitzenberg and Yellow Newtown apples; spring water, road on two sides, 3½ miles from town, red shot soil; beautiful view of Mount Hood, Mount Adams and the Columbia River. Price for the next 30 days, only $125 an acre; half cash, balance 3 years at 8 per cent.

553—10-ACRE tract 7 miles from White Salmon, on county road; red shot soil, light fir timber; near the White Salmon Orchard Co.'s large bearing orchard. For an immediate sale, price only $125 an acre; half cash, balance 3 years, 8 per cent.

587-588—TWO 40-ACRE TRACTS (80 acres), 6 miles out; 1 mile to store and post office of Bristol; county road on one side; brush land, easily cleared. Will sell 20 acres or more of this tract at only $100 an acre, on easy terms.

Space does not permit publishing our entire list of lands from $25 an acre up, according to distance, soil and improvements. For complete list and further information, address Department B.

DAY BROTHERS

WHITE SALMON REALTY CO. WHITE SALMON, WASHINGTON

OKANOGAN APPLE LANDS

Of the Famous SIN-LA-HE-KIN VALLEY. We have recently purchased three thousand acres of "allotted" Indian land in this valley, all of which produces the finest flavored and highest colored apples grown. This land was allotted in 1885 to the Moses Indians in tracts of 640 to 2,200 acres, and was selected on account of the mildness of the winters, and will grow any fruit or vegetable grown north of California.

The elevation of this land is 1,200 to 1,700 feet, and 250 to 300 days of sunshine guarantees the high color of the fruit grown in this beautiful valley. Seventy-five per cent of every tract is ready for cultivation.

We have just finished planting sixty-five acres, and wish to continue the development of this property, and will for this reason sell thirty ten-acre tracts for $125 per acre, this price to include a perpetual water right for the complete irrigation of the purchased land. Payments to be made half down and the balance in one or two years, with eight per cent interest on deferred payments. These lands have been passed upon by the Washington Horticulturist as being as high grade apple land as there is in the state. For descriptive article see another page of this edition.

IF INTERESTED, WRITE TO

T. ERNEST OATES
561 East Ankeny Street, Portland, Oregon

OR

GEO. J. HURLEY
Loomis, Washington

Newtowns Yield $1800 per Acre

James Lacey on an acre of Newtowns marketed 791 boxes of first grade apples, which brought $1,698.55. He has left fifty boxes of seconds, which will sell for about $1.50 per box, and bring the total gross sales from one acre of Newtowns up to $1,800. The returns from his three and a half acres of bearing apples, all kinds, are $3,801.76 for first grade apples alone, and second grades will fully pay for the labor of taking care of the crop. This makes an average of over $1,000 an acre profit

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Facts that affect you—your family

HOOD RIVER VALLEY
APPLE LANDS

Fancy Hood River Apple Pack

Hood River Orchard in Bloom, Giving Promise of Golden Returns

AGENTS FOR MOUNT HOOD RAILWAY COMPANY
LOGGED OFF LANDS IN UPPER HOOD RIVER VALLEY

Many started in a small way; today they are independent
You can begin today. It pays to see us

He who investigates for himself becomes "the man who knows"

W. J. BAKER & CO.
HOOD RIVER, OREGON
The oldest Real Estate Firm in Hood River First-class Apple Land our specialty

SEND TODAY FOR LARGE LIST OF ORCHARD LAND, IMPROVED AND UNIMPROVED, AND HANDSOME ILLUSTRATED BOOKLET

DON'T READ THIS

Unless you are interested in an orchard located on the banks of Hood River, with the grandest scenery one can imagine

The man who wants to change his business vocation to one that is just as profitable (even though he is making $10,000 per annum), where he can sleep 365 days in the year and eat three square meals a day—in other words, enjoy his work—is the man we want to talk to about this place. It contains 136 acres of land, with 70 acres in cultivation and over 30 acres in commercial bearing orchard that will produce 12,000 boxes of apples this year. Good buildings of all kinds; plenty of irrigating water and a gravity system for houses, barns and grounds of the finest mountain spring water. It is fully equipped with farm implements, tools, spraying outfit, etc. Over one-half mile of the Hood River, with wonderful water power, available. Write us for full particulars.

J. H. HEILBRONNER & CO.

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The Davidson Building HOOD RIVER, OREGON

HOOD RIVER APPLE LANDS

Pay Big Dividends—Values Will Double in Three Years

WRITE FOR COMPLETE LIST OF PROPERTIES

20 ACRES, 7 miles southwest of Hood River; red shot soil, good drainage; close to school and store; 4 acres Newtowns and Spitzenbergs, 1 year old; 12 acres slashed and burned; balance light timber; spring water; good location. A bargain at $5,000; $2,000 cash will handle it.

10 ACRES, 3 miles southwest of Hood River; all set to Newtowns and Spitzenbergs, in good condition; volcanic ash soil, good drainage; on main county road. This is a snap at $7,000; $3,000 cash will handle it.

20 ACRES, 9 acres set to commercial orchard, mostly three-year-old trees; 3 acres young strawberries; 5 acres partly cleared, balance in meadow; water stock; small house; near school, store and railway station. Price $10,000; $4,600 cash.

75 ACRES, beautiful modern home, 2½ miles from town; 30 acres under cultivation; 16 acres in orchard in prime condition, part full bearing; 14 acres in meadow. Place will show profit this year of over $5,000 on the crop. Team and all implements included. Price $35,000.

30 ACRES, best red shot soil, scientifically planted to standard commercial orchard, some full bearing; living stream of water, close in; genuine bargain. $23,000; very good terms.

15 ACRES, all planted to Newtowns and Spitzenbergs, 1 to 4 years old, save ½ acre in meadow; close to town; red shot soil. Price $11,000; $4,000 cash.

20 ACRES, unimproved, 6 miles south of Hood River; good drainage, excellent location; all under ditch and A1 orchard land. Good buy at $3,500; $1,250 cash, balance 3 or 5 years.

10 ACRES, near school, store and railway station, on main road; good soil, good drainage; all set to 2-year-old Newtowns and Spitzenbergs; excellent condition; beautiful building site. Price $5,500; $1,500 will handle it.

20 ACRES, partly improved; red shot soil, high and sightly; perfect drainage. This tract lies fine for orchard; beautiful building spot. Genuine bargain at $350 per acre; $2,000 cash.

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THE LEADING DEALERS

Swetland Building, Portland, Oregon Hotel Oregon Building, Hood River, Oregon

BETTER FRUIT

A MONTHLY ILLUSTRATED MAGAZINE PUBLISHED IN THE INTEREST OF MODERN AND PROGRESSIVE FRUIT GROWING AND MARKETING

HANDLING THE APPLE CROP OF THE NORTHWEST

BY PROFESSOR C. I. LEWIS, OREGON AGRICULTURAL COLLEGE, CORVALLIS

IN A VERY short time thousands of people will be busily engaged in handling the finest apple crop, both in quality and quantity, that the Pacific Northwest has ever handled. Our constant thought with this crop should be, not only to uphold the reputation of the Pacific Northwest, but we must even set a new mark as to both quality and pack which these famous regions have placed in the world's markets. Last year was a slump season. The crop was light and quality below the average; there was a great temptation on the one hand to put up a poor pack and on the other there was more difficulty than usual to maintain a high grade. Unfortunately, apples were sent from the Northwest that should have been made into cider, and in some cases small apples were packed and marked in their wrong class. There was a tendency, for instance, to pack apples that would run 104 and 112, as 88's and 96's. In some cases there was even a greater difference than this. There can be but one result from such a practice, a slack pack, followed by poor shipping and keeping of the fruit. Let us profit by last year's experience.

In handling the apple crop we must commence with the picking. No set rule can be given to pick all varieties; this will differ in sections, localities, etc. There are a few varieties that need special attention. The Jonathan probably suffers more than any other variety from unseasonable picking. There is a tendency to allow this apple to hang too long on the tree in order that it may develop a high color; as a result, we often have core-rot development. This shows no trace at the time the fruit leaves the shipper. With all red apples, I would suggest that the grower make several pickings of the fruit, rather than attempt to gather all the fruit with one picking. It is this tendency of picking all the fruit at once that has caused great loss of the Jonathans, the grower waiting until all fruit was highly colored. The yellow apples are picked any time that the seed is colored. Generally, Newtowns have been preferred with considerable color, but the past season the greener the Newtowns were the better prices they brought. The methods employed with picking will generally have a great deal to do with the keeping qualities of the apple. If we will liken the apple to the egg we will make no mistake. With a slight twist of the wrist the apple should be picked so as not to pull out the stem or injure the skin in any way, for such exposed parts are the breeding places for germs and decay. The fruit should be laid carefully into baskets or pails; I prefer these to bags that are often used. I have never yet seen a picking bag that was entirely satisfactory. The best days for picking the fruit are the cool, dry days. Picking during excessive heat or exposing the fruit to heavy rains is not conducive to good handling. As soon as the fruit is gathered it should be taken to the packing or storing house. There would be some exceptions to this; if it were necessary, for example, to pick the fruit during the extremely warm weather, and it were not possible to carry the fruit rapidly under cover, I would leave it in the shade of the trees until night, when the fruit had cooled. If the hot fruit is placed in cold storage rooms, it immediately sweats and may injure the easy wiping and packing.

There is no one ladder that could be said to be best under all conditions. Many growers have a natural preference for certain ladders. I believe that it will be of advantage to the average grower to have a number of types of ladders, in order that they would be suited to various trees, and also to accommodate the help. For as our crops increase, we will have to call on all classes of people, from the youngster to the gray-haired veteran. The older and heavier people can be used to better advantage on the ground, using the picking tables, which accommodate a picking box, as shown in the illustration, or a stout stepladder of only three or four steps. For the higher portions of the tree, the aim should be to get a ladder that is as light as possible, and yet heavy enough to bear the weight of the picker. The light Japanese, and three-legged ladders can be used to greater advantage in some of the higher parts of the tree. These ladders terminate in a pole, and can be moved easily from place to place without injuring the fruit trees. In addition

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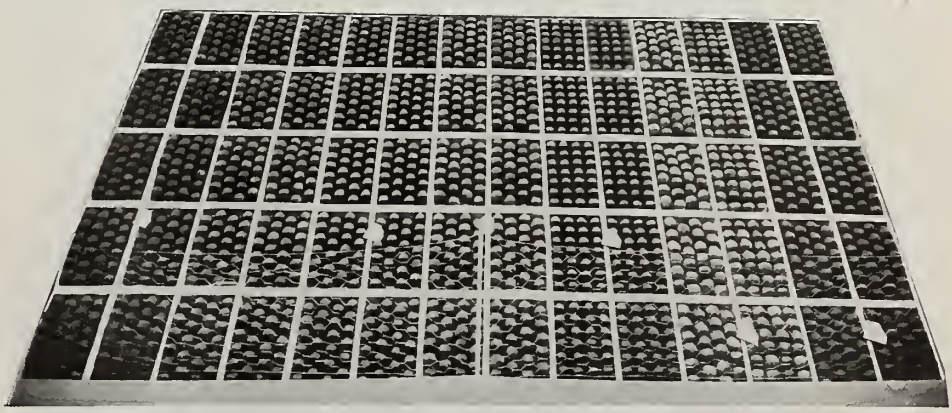


SECTIONAL VIEW OF TEN-BOX APPLE DISPLAY, COMMERCIAL PACK, AT NATIONAL APPLE SHOW, SPOKANE, FROM PACIFIC COAST STATES

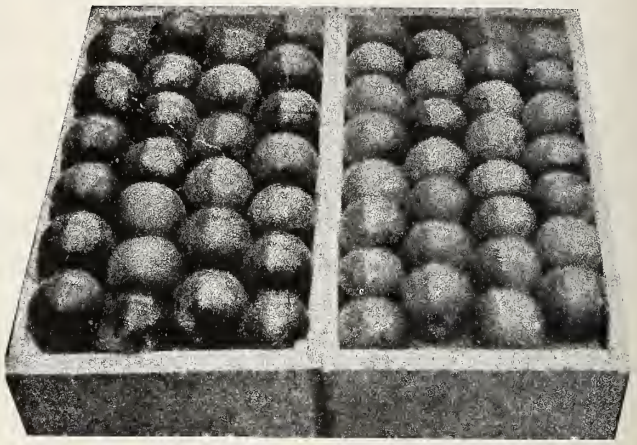
FINE DIAGONAL PACK BY M. M. HILL, HOOD RIVER

to the pails and baskets used in gathering, one should have a good supply of orchard boxes. These are better when not made too tight; that is, allow a large crack for ventilation. They should be well supplied with cleats so that they can be stacked without brusing the fruit, and should be somewhat larger than the regular packing boxes. In no case should the packing cases be used in the orchard, as it is important to keep them clean and not have them used for such purposes. There are many kinds of vehicles that can be used to advantage. Be sure to have good springs and a low, broad body, to insure careful riding and easy handling. The one shown in the cut, used by E. H. Shepard, of Hood River, is a good type. Some growers have used a three-deck wagon to advantage. The wagons that are used by many of the California orange growers could be used in many of our apple orchards. They are so constructed that it is impossible for the hind wheels to run into anything that the fore wheels clear. The pole is removable, and can be attached at either end. These wagons can be hauled in series of two and three when desired. Until such time as the fruit can be packed it should be stored in a cool, dry place. If the temperature can be kept down, the normal moisture of the atmosphere is conducive for good handling during the fall season. As soon as possible, have the fruit wiped. If you allow it to stand very long, many of the varieties will sweat and gum in such a way as would be almost impossible to wipe. In wiping use either a soft mitt or cloth. The aim should be merely to remove spray spots or dust, and not to polish the fruit; polishing, unless properly done, might be injurious. As the fruit is wiped it should be graded at the same time, both as to quality and size. Concerning size, we generally grade according to tier, using a grading board which has holes for three, three and a half, four, and four and a half tier. All the various packs are made up from the fruit that can pass through these four holes. The fruit should also be graded by quality. We have not had any definite standard that has covered all districts of the Northwest. The various sections have had their own nomenclature, such as fancy, choice, seconds, etc. It would probably be impossible to get up a system of grades that would be uniformly adaptable; however, if an attempt was made to adopt such grades, it would give us greater uniformity than we now have. At the last National Apple Show, about 200 growers from the various parts of the Northwest met and adopted the following grades:

First: That our apples be packed in three grades.

Second: That said grades be named "extra fancy," "choice," and "orchard run."

Third: That where the words "extra fancy" are stamped on the box, it shall signify that the apples when packed were sound, uniformly graded as to size in each box, smooth, practically free from bruises, worms, worm stings or disease, and have reasonably proper shape for the variety, fully matured. All red varieties in the grade shall be at least 50 per cent red, except Spitzenberg, Winesap, Jonathan, and Arkansas Black, which shall be at least 70 per cent red. Yellow Newtowns, White Winter Pearmains, Grimes Golden, Bellflower, Ortleys, Winter Bananas and Red Cheek Pippins will be allowed in this grade.

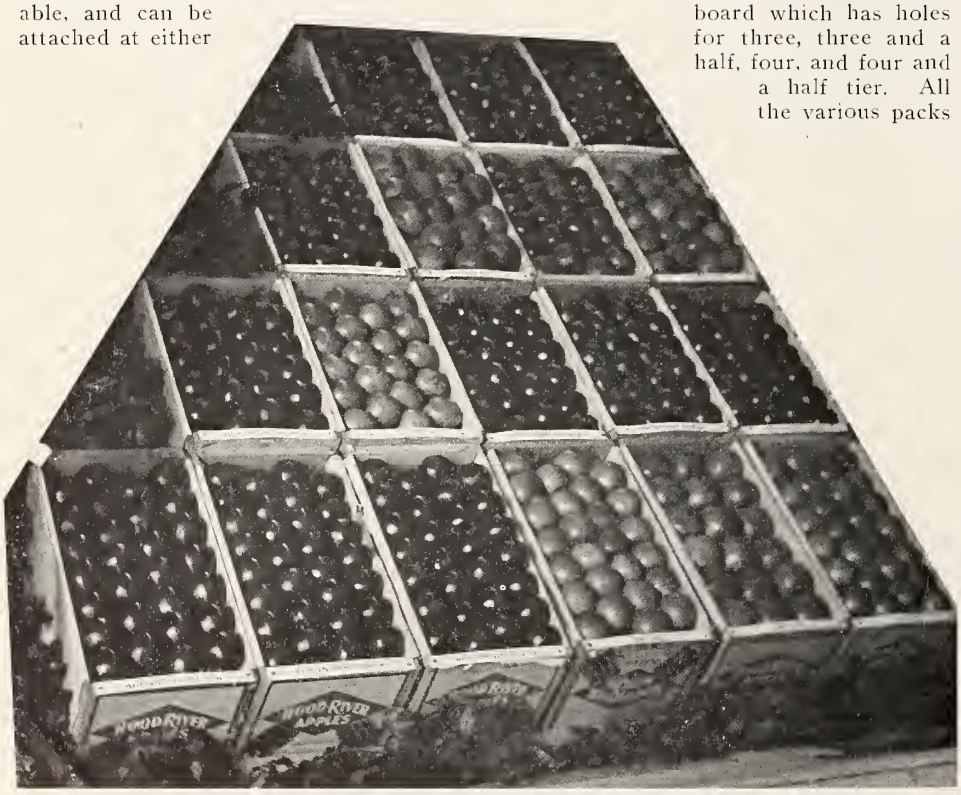


SIZE 104 AND 120 DIAGONAL PACK, SPECIAL BOX

Fourth: The "choice" grade shall consist of apples sound, uniformly graded as to size in each box, free from any breaks in the skin, or black bruises; also free from worms or any disease which materially injures the quality of the apple.

Fifth: Where for any reason the grower or packer does not desire to use the "extra fancy" or "choice" grades, we recommend the varieties be packed in one grade, termed "orchard run." The apples in this grade shall be practically free from worms or any disease which materially injures the quality of the apple, and shall not be smaller than five-tier, nor less than two inches in diameter.

It was also decided to publish the rules in pamphlet form for distribution to growers, packers and buyers.



THIS PICTURE GIVES A SPLENDID IDEA OF PERFECT GRADING AND PACKING

It should be the aim of every orchard owner to build a good, substantial packing house, one which would accommodate the maximum crop his orchard would produce. In building a packing house, several points should be kept in mind: First, it must be large enough to handle the entire crop. This would include rooms for grading, wiping and temporary storage, and sections for packing, sections for storing fruit until it can be loaded on the cars, and a room for convenient storing of packing supplies. It should be well ventilated and the packing and grading sections should be especially well lighted. It should be borne in mind, however, that it is poor economy to have the packing house larger than is necessary, as it means loss of time in handling a crop. Those interested in packing houses would do well to visit such houses as those of A. I. Mason, Hood River; Snowy Butte Orchard, Central Point; the Bear Creek Orchard, and Hillcrest Orchard, of Medford.

FINE STRAIGHT-TIER PACK
The diagonal pack is used more, but the straight-tier pack is very handsome for exhibition purposes

There is one point that I would wish to emphasize in handling a packing house, and that is keeping it clean. Some growers allow more or less decayed apples and pears to remain in the packing house months after the crop is handled. As soon as the season is over the house should be thoroughly cleaned. Where decayed fruit has been handled in any way, that portion of the packing house should be washed and fumigated. By writing to the United States Department of Agriculture, bulletins can be obtained on handling of fruits, which show from experiment the necessity of avoiding all possibility of inoculating fruits with decay.

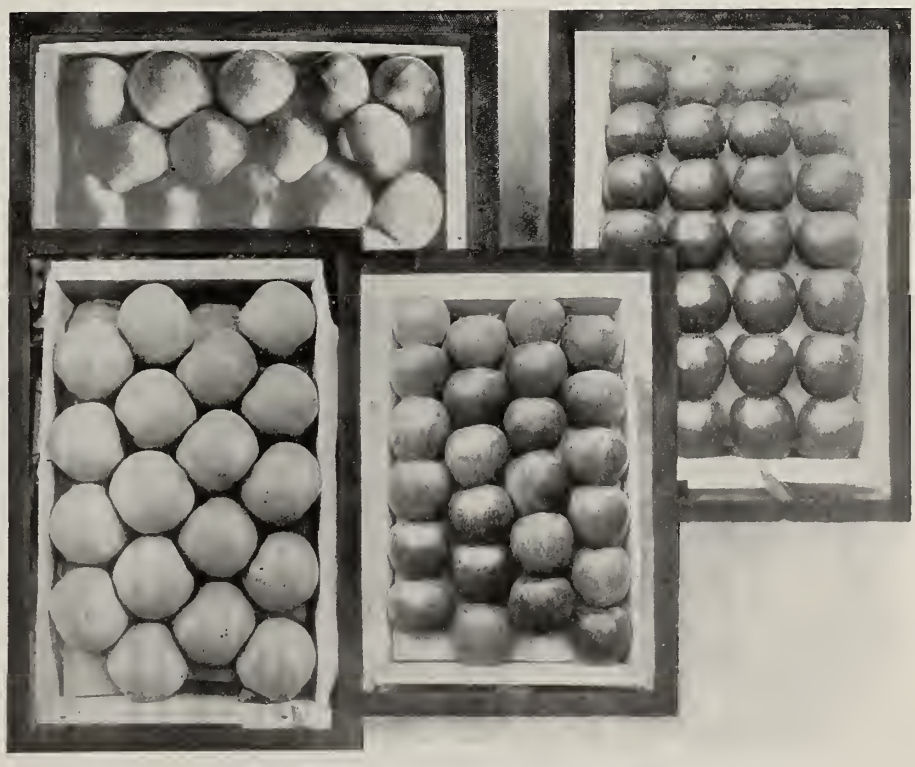
For packing apples, I would recommend tables similar to those employed at Hood River. To make such a table, take four standards about three feet high. The top, made of strong burlap about three by four feet, is allowed to hang rather loosely. Therefore, saw off the tops of the legs on a bevel, so as not to have the sharp corners push into the burlap, making points that will bruise or cut the fruit. Old hose pipe is generally nailed around the top of the table to protect the fruit. It is also well to wire the legs and braces together firmly, as there is a heavy load to support.

The height of the tables suggested above is only relative, the point being to so construct it as to allow a packer to work with the greatest comfort, avoiding back-bending in all cases. Three feet is generally found to be about right. The surface area of the table should not be greater than three feet by four feet, as anything larger would not allow two packers to reach all points of it without unneccessary stretching.

TEN-BOX DISPLAY COMMERCIALLY PACKED APPLES FROM DELTA COUNTY, COLORADO

In using this table, care should be taken to clear off all fruit at least eight or ten times a day; otherwise, much fruit will receive hard handling by being continually "pawed over."

A nailing press should be employed; the type shown in the cut is one of the best I have seen. It is hard to understand why some growers will still use the old one-arm press for nailing apple boxes. The box machine will also be necessary. At present, about all that is used is the ordinary table, with cleats nailed on the top in such a way as to make a form for the boxes. While one can make a couple of hundred boxes per day with such an instrument, the time is at hand when the large growers and associations are putting in automatic nailing machines. These can be run by a gasoline engine or electric motor, and can put out about 1,200 boxes per day. Before the packing season begins you should provide yourself with an abundance of supplies; these will include boxes, and you will want both the standard box, which measures 18x10½x11½, and specials, which measure 20x10x11. When possible, the boxes should be made of clean spruce lumber. A good supply of cement nails will also be needed, both for nailing boxes together and fastening on the cleats. A large number of cleats will be necessary, as both the tops and bottoms must be cleated. Do not be satisfied with cheap boxes; they are unattractive and do not carry well. Concerning the thickness of the material, ¾-inch is good for the ends,



SHOWING DIAGONAL AND STRAIGHT COMMERCIAL PACK
The two front boxes contain seventy-two and ninety-six apples to the box

⅜-inch for the sides, and ¼-inch for the top and bottom. A good supply of paper will be necessary. This will include white box paper and layer paper, also duplex wrapping paper, as all apples should be wrapped. Stencils and ink pads will be necessary. Where considerable printing is done, the rotary stencils will be found economical.

In speaking of styles of packs, we refer only to those boxes where each individual apple is laid in place and

STRAIGHT-TIER PACK, WRAPPED
In this pack the apples lie straight on each other and will show marks

where an honest attempt is made to have all the apples in the box as nearly the same size as possible. These packers themselves have a great many terms relative to the various packs, but the trade in general understands the packs only when designated as straight or diagonal. Formerly, the offset was used considerably, but is rapidly going out of favor. More people prefer to designate the packs as three, three and one-half, four, four and one-half, or five-tier, whichever they may be. It would be still clearer and more satisfactory to all parties if the number of apples were stamped on the box.

In the straight pack the rows run straight across the box, parallel to the edges. This pack includes all the three, four, and five-tier apples. The straight pack is very neat in appearance but it is rather severe on the fruit, as each apple tends to be pressed firmly against surrounding apples rather than into the spaces. We find the apples in the straight pack, as well as in the others, placed in various ways. Some pack the apple on its side; others pack with the stems up, while some have the calyx up. The best packs should always have the bottom and top layers with stems toward the outside. In this way the apples do not tend to bruise as badly, and if they do bruise, are not so badly disfigured for the fruit stands, where they are generally arranged with the calyx end up.

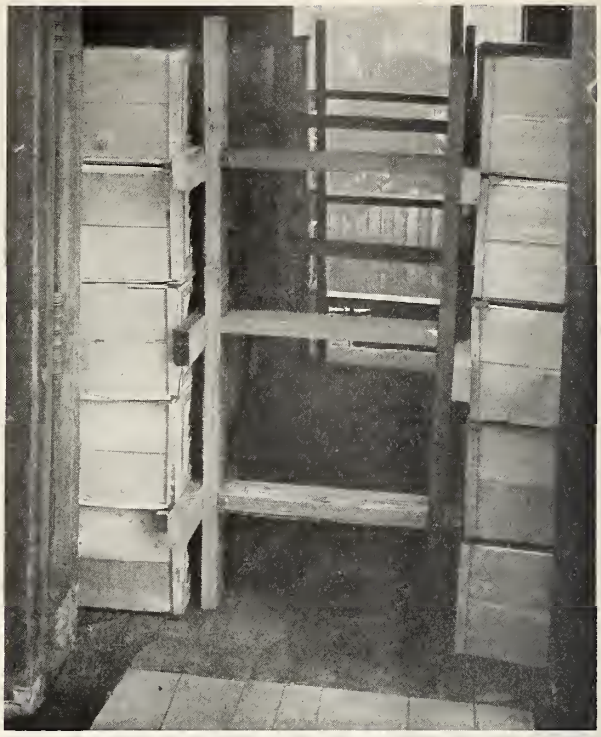
The three-tier pack consists, as the name suggests, of three rows across the box and also three deep, making, in the standard box, forty-five apples; while, if used with the special box, it should contain fifty-four apples.

The four-tier consists of four rows across the top and four rows deep, including the 96 (six tiers long) and the 128 (eight tiers long), which are generally packed in the special box. The 112 (seven tiers long) is also used.

The five-tier consists of five rows across the box and five deep. About the only pack used is the 200 (eight tiers long). It does not pay to box smaller fruit than this.

The diagonal pack, or diamond pack, as it is often called, is so termed because the rows run diagonally with the edge of the box. Its chief advantage is that it accommodates sizes that do not adapt themselves to the straight pack, although in some cases we find that the diagonal contains the same number of apples as certain straight packs. For instance, we have in the latter the four-tier, 96 and 112. These same numbers also occur in the diagonal. The diagonal pack contains the half-tiers, such as three and one-half and four and one-half. The two and one-half is not a commercial pack, being simply used to accommodate extra large apples on certain occasions. One of the advantages of the diagonal pack is that it allows the apples to adjust themselves more readily to the space in the box; for when the pressure is brought to bear the apples tend to find the spaces, whereas, in the straight packs each apple is always brought up firmly against its neighbors.

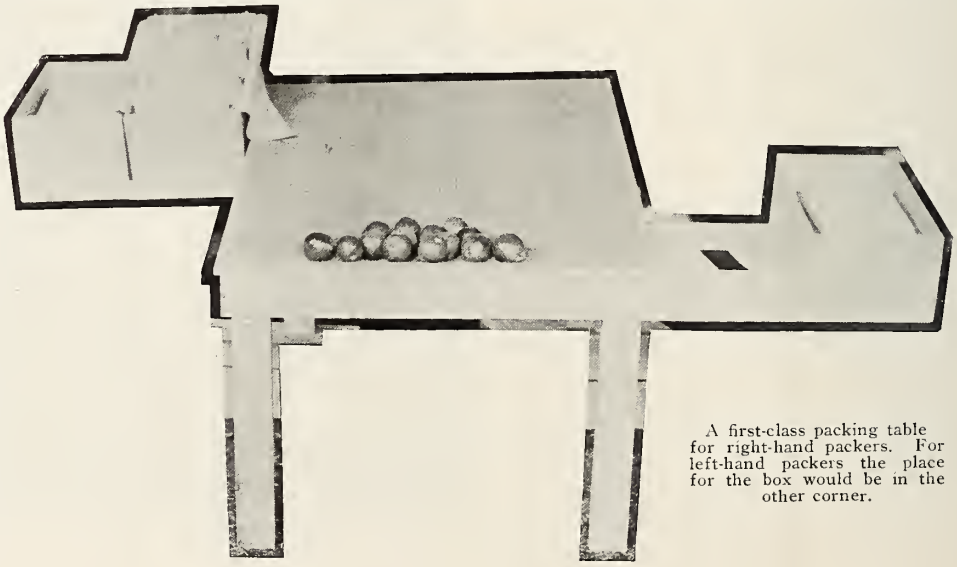
In the three and one-half we find that more than three full rows, and yet not four full rows, are necessary to fill the box. One can readily see, therefore, that a good many apples would naturally come in this class. We find more different packs being used with the three and one-half than with any other. In the standard boxes, we have the 64, 72, 80, 88, and 112; while 96, 104 and 120 are generally packed special.



CARLOAD OF APPLES BRACED AND READY TO GO ACROSS THE CONTINENT

In the four and one-half, we find that more than four full rows, but not five, are necessary to fill a box. This includes the 150, 165, and 175.

The offset should be discouraged, as too much empty space is left in the box. Large spaces occur in the sides while in the diagonal there are only small spaces at the ends. Thus, in using the offset one sacrifices from four to twelve apples to the box. With fancy apples this means much to the retailer. The tendency is, and should be, to get as many apples as possible into the box; in other words, make the best use of the space.



A first-class packing table for right-hand packers. For left-hand packers the place for the box would be in the other corner.

The time may come when we will have standard weights for each variety, which will denote the packing.

The packs described are all that are needed; in fact, more than the average man uses, or should use. We should strive to do our packing with as few packs as possible, as a large number is confusing.

Sizes of boxes: Oregon standard, 10½x11½x18 inches; California special, 10x11x20 inches, inside measurement.

FOUR AND ONE-HALF TIER 165 APPLE PACK, WRAPPED

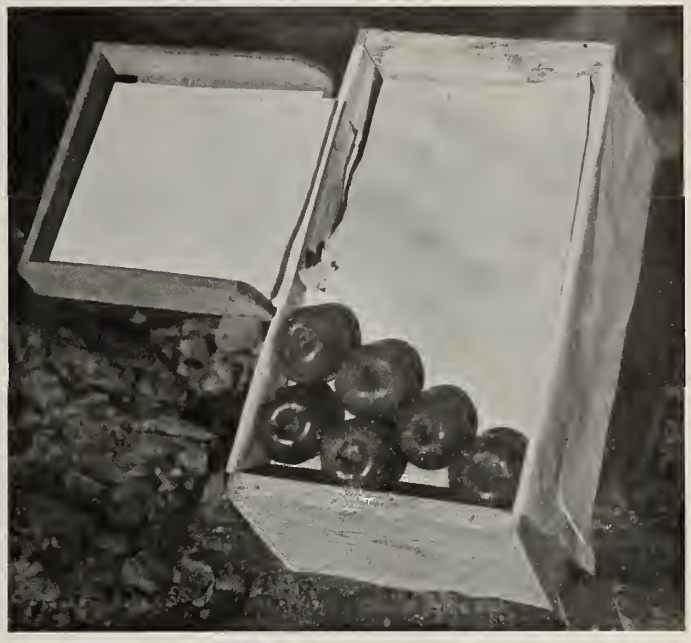
When a standard box is used, 96 and 112 are packed four-tier, and 200 will pack five-tier.

Spitzenbergs and Ben Davis, 128-size long, may be packed 125 to the box. Flat apples, like the Wagener, may be packed four-tier by placing all on their side.

Ninety-six, 104, 112 and 120 may be classed as four-tier apples, and 185 and 200 as five-tier.

No matter how good a product may be, unless it is packed in such a way as to reach the market in good condition, and at the same time be attractive, it will not bring the highest prices. But a good product, handled in an attractive package, is sure to be the first in demand and to command a good price, even when the market is glutted. A certain grower in our state, by spending a few cents on each box of fine pears, realized seven dollars a box. It is almost a crime to handle some of the choice fruit in the way it is being handled. Of course, a certain percentage of the fruit is too small, too imperfect, to warrant the extra outlay. Nevertheless, an attractive package will often sell fruit that is not of the highest quality; that is, second-grade fruit, if well packed, will often bring a profit where there might otherwise be a loss; but what we should strive to do is to pack quality fruit in quality packages. In the very beginning it must be clearly understood that to receive the best returns one must not only understand the details of packing, which, after all, are matters of experience, but he must be strictly honest and scrupulously clean. These factors, coupled with methods approved as correct, will bring success.

First, be sure the box is clean, and you will have no difficulty in always having clean boxes if you will buy clean white material, and never allow boxes to be used for any other purpose. The box is generally placed on an incline toward the packer. He is then ready for the lining paper, which is generally made slightly shorter than the box and in width about twenty-six inches; thus two sheets are needed, and this will allow for generous overlapping on both top and bottom, and also allow a plait to be made on the bottom corners. This can be easily done by catching the paper on the ends, thus making a fold, and then draw it quickly over the knee, creasing it. This crease is generally made about six inches from the end. These plaits will fit in the corners, and when the box is filled and bulged the paper will not tear. All boxes



MANNER OF STARTING A DIAGONAL PACK, IF PACKED STEM END UP
Tray on side of box for holding wrapping paper

TABLE OF COMMERCIAL APPLE PACKS

Box	*Tier*	*Pack*	*No. Apples in Row*	*No. Rows in Width*	*No. Layers in Depth*	*No. Apples in Box*
Standard	3	Straight 3	5–5	3	3	45
Special	3	Straight 3	6–6	3	3	54
Special	3	Straight 3	7–7	3	3	63
Standard	3½	Diagonal 2–2	4–4	3½	4	64
Standard	3½	Diagonal 2–2	4–5	3½	4	72
Standard	3½	Diagonal 2–2	5–5	3½	4	80
Standard	3½	Diagonal 2–2	5–6	3½	4	88
Special	3½	Diagonal 2–2	6–6	3½	4	96
Special	3½	Diagonal 2–2	6–7	3½	4	104
Special	3½	Diagonal 2–2	7–7	3½	4	112
Special	3½	Diagonal 2–2	7–8	3½	4	120
Special	4	Straight 4	8–8	4	4	128
Special	4	Straight 4	9–9	4	4	144
Standard	4½	Diagonal 3–2	6–6	4½	5	150
Standard	4½	Diagonal 3–2	6–7	4½	5	163
Standard	4½	Diagonal 3–2	7–7	4½	5	175
Special	4½	Diagonal 3–2	7–8	4½	5	185
Special	4½	Diagonal 3–2	8–8	4½–5	5	200

GOOD PACKING TABLE FOR ONE RIGHT AND ONE LEFT HAND PACKER

COMMERCIALLY PACKED APPLES AND PLATE EXHIBIT FROM SOUTHERN IDAHO AT THE NATIONAL HORTICULTURAL CONGRESS, COUNCIL BLUFFS, IOWA, AND TAKEN FROM THERE TO THE LAND AND IRRIGATION EXPOSITION AT CHICAGO

of high-grade fruit should contain this paper, as it insures keeping dirt and odors away from the fruit. Layer paper should also be used between the layers, especially for all fruit that is to be shipped a considerable distance. This paper acts as a pad, tends to lessen danger from bruising and skin slipping, soaks up moisture that may gather from sweating or bruising; and, moreover, aids to convey to the buyer the thought that he has a superior article. Both layer and lining paper should be constantly kept within easy reach of the packer and always in the same place, to avoid confusion. Wrapping paper should be used for all the better grades of fruit. The 8x10 will answer most purposes. This paper often contains the name or trade-mark of the grower. It is not necessary to wrap all the apples with such costly paper, but it is a good plan to have the outside layers so wrapped, and if the paper is neat it certainly adds much to the attractiveness of the package. This paper can very nicely be placed in little hoods that are made to clasp over the edge of the box. Some packers use a stole on the first finger or thumb to aid in picking up the paper. Practically no time is lost in using the paper, as an experienced packer picks up the apples with one hand while he reaches for the paper with the other. They are brought together very rapidly and a single twist wraps the apple. On the bottom and top layers the smooth side of the paper should be on the outside. Wrapping paper tends to make a firmer package, guards against bruising, tends to keep the apples better, and certainly gives the package a superior air.

As to just how each pack is put up, the photographs bring that out. The straight packs need no explanation. The diagonal pack is generally started by putting the two or three apples in the lower left-hand corner in first, and then building up the lower layer on these. Each succeeding layer is made the same way. Experience alone will teach you how to pack so as to have the proper bulge in the center. Formerly our packers made this bulge altogether too great. It should be such that when the box is nailed you have a bulge not greater than three-fourths of an inch. Some have thought that the three-fourths-inch bulge was too small. Judging from last year's experience, I believe that the trouble was due to attempting to pack small apples such as 112, as 88's and 96's. The danger is that the beginners will have the pack too flat, or else, in trying to obtain the proper bulge, will injure the apples or have the ends so high as to need extra cleating. If there is any difference at all in size of apples, place the smaller ones at the ends and the larger in the center. Again, if on the bottom layer the end rows are placed on the side and the center rows on end, it will tend to elevate the center. But with a little practice one should learn how to pack each box to the best advantage. These details one must thoroughly master for himself.

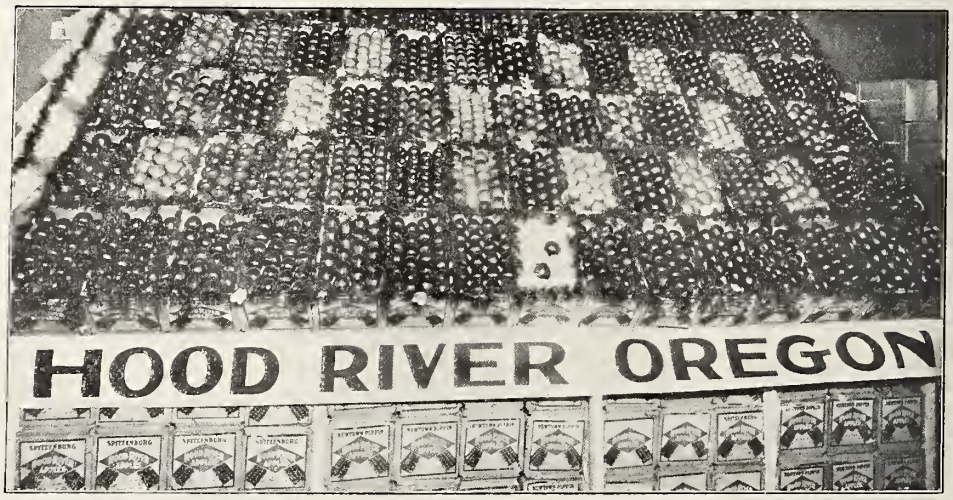
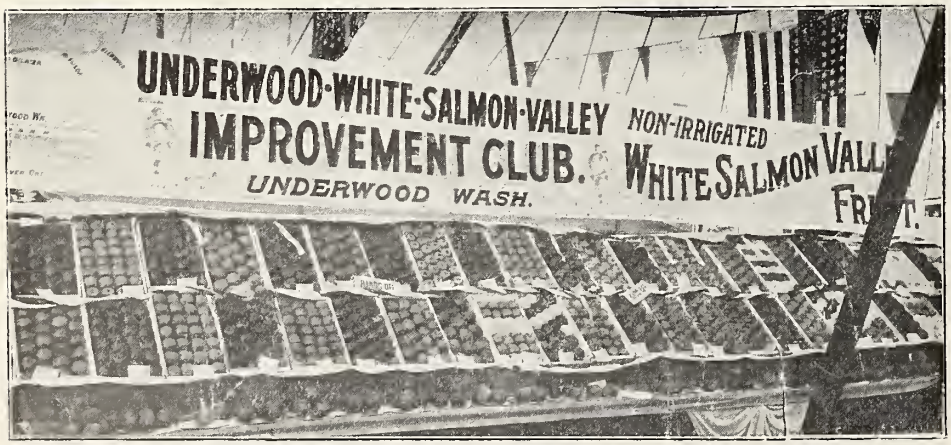


EXHIBIT OF HOOD RIVER APPLES AT STORE OF GIBSON FRUIT COMPANY, CHICAGO
These apples are part of the car sent by the Commercial Club of Hood River to the National Land and Irrigation Exposition, Chicago

There are a number of systems of handling packers. I believe the best one is where the packers work by the day, and their work is very carefully watched by a foreman. The grade of pack under such a system depends upon the efficiency of the foreman. I have seen some very poor packing done by this system, and some splendid packing done by piece work, but there is a tendency with piece work to hurry so that defects can easily creep in.

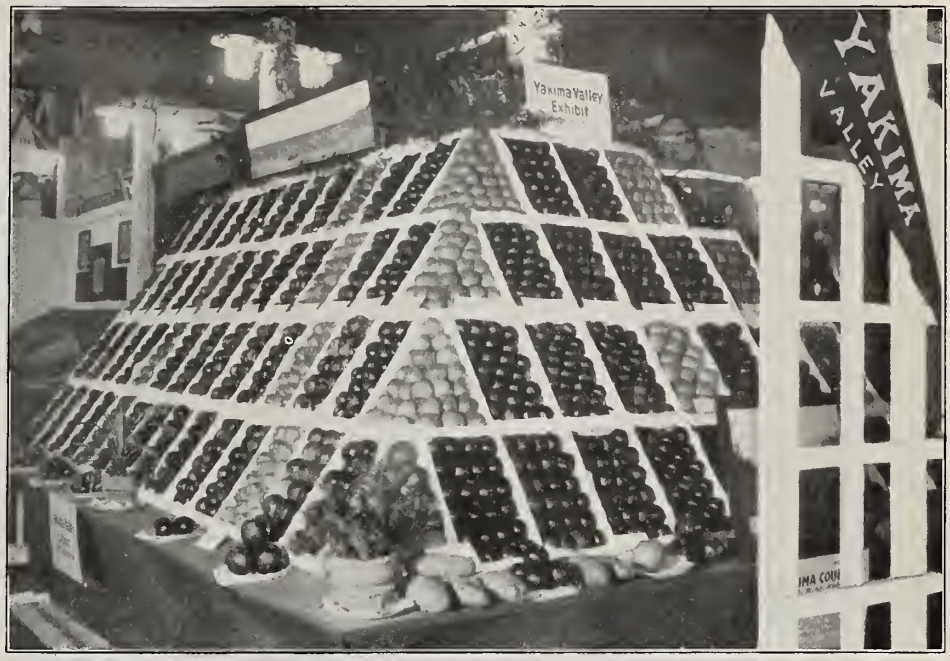
Most Northwestern states have laws concerning marking of the package.



COMMERCIAL PACK OF APPLES FROM THE WHITE SALMON VALLEY, WASHINGTON

Each package should have the grower's name, state grown, and packed by Mr. A.; also the number of varieties in the package, and the grade, and least important of all, the tier. Lithographs should be used, as they add a great deal to the attractiveness of the package. This should bear the state, region grown and grower's name. Bright, gaudy colors tend to cheapen the appearance, while the rather subdued natural effect adds to make the package more attractive.

With the growth of the fruit industry throughout the Northwest it will be necessary to establish pre-cooling buildings. While these will be of greater assistance to the more perishable fruits, like cherries, prunes, peaches, etc., they will doubtless be of great aid in handling fall apples and early winter varieties, such as Jonathan. In storing fruits it is more customary, and I believe better practice, to store the fruits near the Eastern market, where they are to be consumed. It is very difficult to transfer the fruit during the winter months through the Rocky Mountains without freezing. Where large amounts of fruit are to be handled and considerable held for local consumption, store houses like that built by the Hood River Apple Growers Union, will be found to be of great aid in holding the fruit until it can be shipped.



COMMERCIAL PACK OF APPLES FROM YAKIMA VALLEY, WASHINGTON, AT THE LAND AND IRRIGATION EXPOSITION, CHICAGO

FINE EXHIBIT OF FRUIT, PUT UP IN ECONOMY JARS, AT THE OREGON STATE FAIR

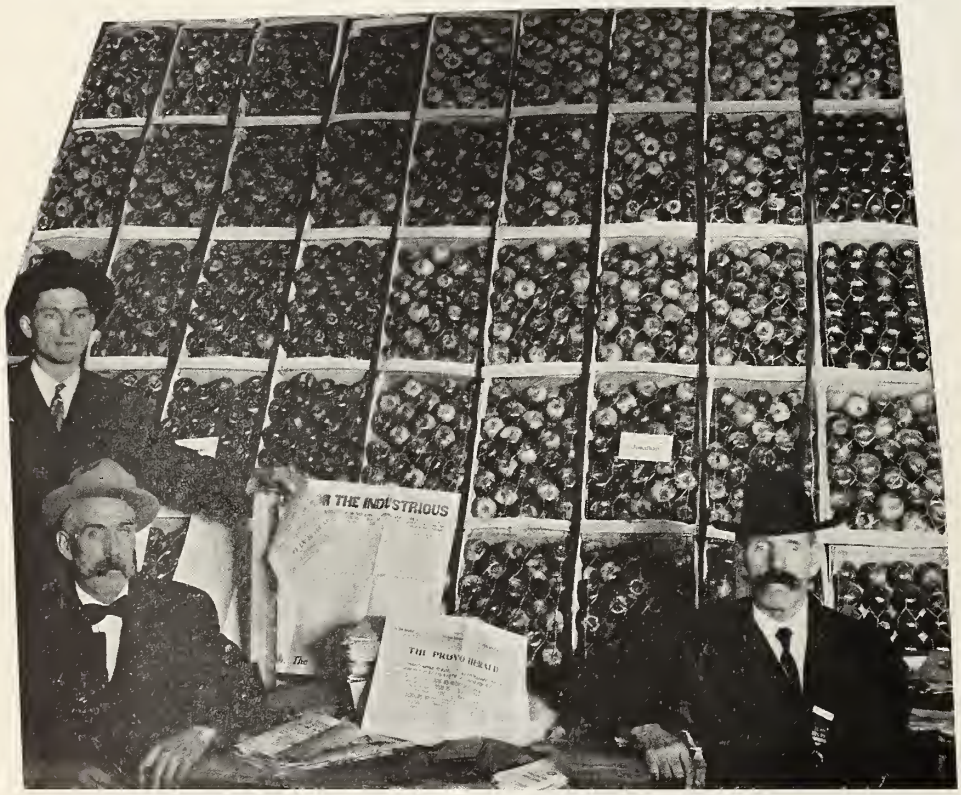
The way in which a car is loaded will depend largely upon the kind of fruit, the season, and the distance to ship. The number of boxes will vary also with above-named conditions. Where the standard-sized boxes are used, this will vary from five hundred to eight hundred, half-size boxes allowing twice as many. With such fruit as pears, fresh prunes, cherries and peaches, ventilation spaces are left between the layers of boxes, and the top and center of the car is not filled, as in these parts the temperature ranges higher. Summer and early fall apples must be handled carefully when sent a considerable distance. All boxes must be laid on their sides and never on the top or bottom. Where refrigerator cars are used and icing is necessary, the car should be loaded as quickly as possible to prevent it from becoming heated, and thus save on the ice bill. Again, heated fruit should never be placed in an iced car; it will cause the fruit to sweat, and will also heat the air in the car. Gradually chill the fruit before loading. Cleats are nailed on the floor of the car so as to hold each row of boxes in place. Formerly every layer of the boxes was firmly cleated, but this year the results have been found good where the bottom layer has been firmly cleated and then every third layer so treated. The fruit should be loaded so as to prevent shifting. If the cars are to cross the mountains during severe weather, they should be lined with paper, to prevent freezing of the fruit.

There are many methods of selling fruit, and they generally vary according to season, condition of market, etc. There is great need for better understanding between the buyer and grower. There always seems to be a tendency on the part of both parties to deceive to a certain degree; this only leads to an uncertainty of the market. It would be much better to build up a system whereby more accurate knowledge could be obtained as to the amount of fruit, and then expect frankness on the part of both buyer and seller. The commission men come in for a great deal of abuse, some of it earned and a great deal of it otherwise. Unless the fruit is sold directly to a retailer it must be sold through some commission house. Some seasons sealed bids have worked to advantage, while in such a season as 1907 they were a flat failure, owing to a tight money market and general uncasi-

COMMERCIAL PACK OF APPLES AND CANNED GOODS, AS WELL AS PLATE AND GRAIN EXHIBIT, FROM UTAH, AT NATIONAL LAND AND IRRIGATION EXPOSITION, CHICAGO

COMMERCIAL PACK BY THE EDITOR AND PUBLISHER OF "BETTER FRUIT"
Best five-box exhibit at Hood River Annual Apple Fair, 1908, also winner best five-box exhibit Oregon State Horticultural Society, Portland

ness. It is much to the interest of the grower to sell the fruit f. o. b. Occasionally, we find the grower selling fruit and forwarding it without any understanding whatsoever as to the price. This is a miserable practice, and is generally unsatisfactory to both parties. Probably the best results can be obtained by selling through an association. We hope to reach the time when we can imitate our friends of Southern California, and take advantage of the experience of the California Fruit Growers Association. They have the reputation on the Coast for handling fruit, and for steadily advancing the prices; while we were having our financial flurry in 1907, and practically all the products were suffering, the oranges of Southern California brought better prices than ever. We need a large association here in the Northwest that will handle all of the fruit. This association should have a central office and should look after the selling of the product. Such an association would be extremely valuable in building up our foreign trade, which is now very unsatisfactorily handled. In addition to this larger association we should have a great many smaller branch associations. In fact, each community would have its own association, keep its own board, and have a director who represents the local association in the central association. We see a step in the right direction in the Rogue River Valley in the formation of the Rogue River Fruit Growers Association, which will handle the entire product of the Rogue River Valley. Those interested in forming an association should consult the constitution and by-laws of the Hood River Apple Growers Association, the Lane County Fruit Growers Association, of Eugene, and the Rogue River Fruit and Produce Association, of Medford, each of which has an organization and by-laws especially adapted to conditions under which it must exist. Let us all look forward to the time when we can have better organization. It is unnecessary for me to dwell on the value of organization, which we have demonstrated beyond the point of debate.



BOX EXHIBIT FROM PROVO, UTAH, AT COLORADO NATIONAL APPLE SHOW

PROBLEMS SURROUNDING THE SHIPPING OF FRUIT

BY G. HAROLD POWELL, IN CHARGE OF FRUIT TRANSPORTATION AND STORAGE INVESTIGATIONS, U. S. DEPARTMENT OF AGRICULTURE

THE fruit growing and the transportation interests of the country are inseparably bound together. There is no use in growing apples, oranges or peaches commercially without an efficient system of safe and rapid distribution. The intricate system of railroads and waterways that spreads out like a network over the country has converted vast areas of unproductive land into highly specialized fruit-growing regions, and distributes the products of the orchard, the plantation, and the vineyard to the remotest parts of the country and to many foreign markets. There has been a gradual evolution of special transportation facilities from the boxcar, the pony refrigerators, and the slow express or boat service, with their irregular schedules of forty years ago. The fast fruit-train service, the fruit-express car, the refrigerator-car lines, the special fruit boats, the refrigerator compartments on shipboard, and the development of cold-storage warehouses as a link in the chain of distribution, have brought together the producer and the consumer in the most distant parts of the United States and Canada. They have made accessible to the American fruit grower the principal markets of Europe, of Asia, and of other foreign lands.

The citrus fruit business of California is a striking example of a large commercial industry that has grown up within thirty years. The first carload of 300 boxes of oranges is said to have been shipped from the state in 1876. The shipments reached 1,000 cars ten years later, in 1886. A decade afterwards, in 1896, nearly 16,000 cars were forwarded, while about 30,000 carloads of oranges and lemons, amounting to over 10,000,000 boxes of fruit, valued in California at $27,000,000, were shipped during the forwarding season of 1904-5, the fruit reaching every town of importance in the United States and Canada, as well as many European and other foreign markets.

HOOD RIVER APPLES ON SALE ON "THE STREET," IN NEW YORK CITY

The deciduous fruit industry of California has also shown a remarkable development. The first carload of fresh fruit was shipped East in 1869. The fresh-fruit shipments in 1895 amounted to 4,568 carloads, while in 1905 between 8,000 and 10,000 cars were shipped from the state, many of the apples, pears, plums and peaches finding their way across the Atlantic and the Pacific as well.

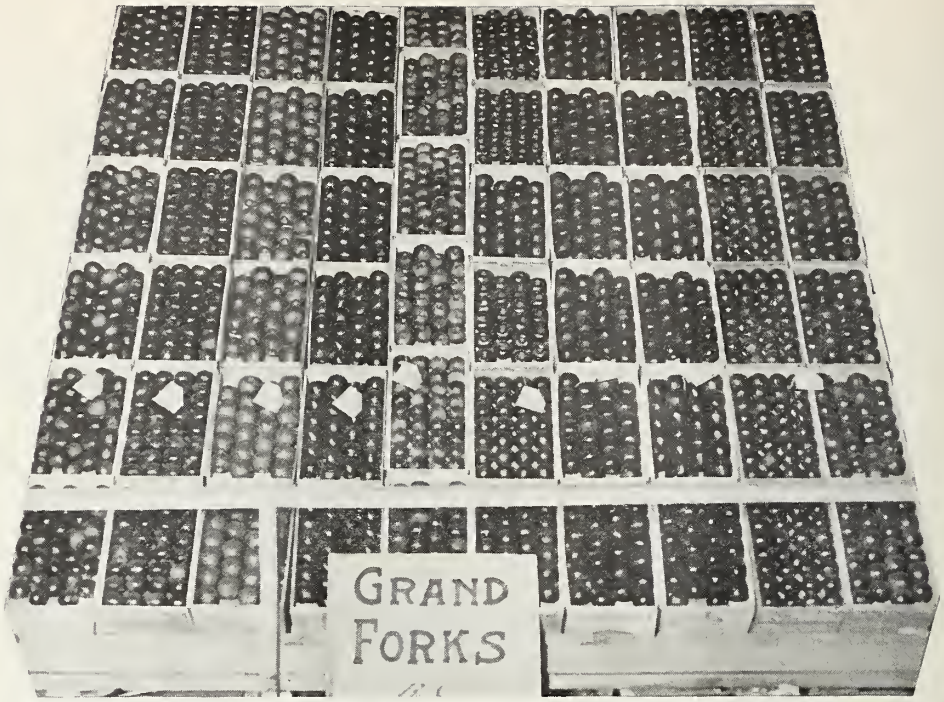
The Western Coast has not been alone in the rapid development of commercial fruit growing. About fifteen years ago strawberry culture began to develop as an important commercial industry in North Carolina and South Carolina. In 1897 the marketed crop reached about 500 carloads, while in 1905 it was between four and five times as large. Peach growing in Georgia is another example of the rapid growth of an American fruit industry. About thirty years ago a few peaches were shipped from the state by express. The refrigerator chests devised in 1866 by Mr. Parker Earle for the shipment of strawberries were used in Georgia as early as 1878 to prevent the rots and over-ripeness of peaches in transit. Two years later some of the crop was forwarded to Savannah by freight and thence in refrigerator compartments by boat to New York. About 1882, crude forms of the refrigerator car were introduced for the carrying of fruit. The Elberta peach, which originated at Marshallville, Georgia, came into prominence in the early eighties, giving the industry a great impetus, which has resulted in the growth of the shipments in the last ten years from about 700 to 5,000 cars of fruit annually. The Georgia peach orchards represent now nearly 20,000,000 trees. The distribution of the fruit crop from these widely separated areas is one of the most difficult problems in transportation.

No commodity is more likely to deteriorate in transit than the fruit crop. The

SWEEPSTAKE CARLOAD, COMMERCIALLY PACKED, FROM GRAND JUNCTION, COLORADO AT THE NATIONAL APPLE SHOW, DENVER, COLORADO

ripening and the rots continue to develop in the cars in hot, moist seasons unless they are checked by a cold temperature soon after picking. Summer fruits, like the cherry, the peach, the plum, or the berries of different kinds, are likely to reach the market soft and decaying unless handled under the most favorable conditions. It is not uncommon to find the markets filled with over-ripe peaches from Texas and Georgia, or strawberries from the Carolina district, during hot, moist shipping seasons. The Bartlett pear often reaches the distant market in a "slack" condition on account of the ripening and shrinkage of the fruit in transit. The slow-ripening fall or winter fruits are less likely to develop trouble in transit, but on long trips the ripening processes may bring them to the point of deterioration, or the development of rots may cause serious commercial loss.

The reader should distinguish between the losses that result from the continued ripening of the fruit, and the deterioraton from decay which the fruit may have contracted while growing, or after it is picked. Either of these factors, or both of them working together, may be responsible for transportation troubles.



SPLENDID COMMERCIAL PACK OF BOXED APPLES FROM GRAND FORKS, BRITISH COLUMBIA, AT THE NATIONAL APPLE SHOW, SPOKANE

Many of the diseases that attack the growing fruit continue to develop in transit. The bitter-rot is one of the worst apple diseases in the Central-Western and Eastern-Southern apple-growing states. The disease is often in an early stage of development when the apples are packed for shipment. It develops with great rapidity in the moist, warm air of the package and renders the fruit worthless in a few days unless it is shipped or stored immediately after picking in a temperature as low as 40 degrees Fahrenheit. It grows luxuriantly in warm weather if the shipping is delayed, or if the apples are forwarded in warm cars. The scab may grow slightly in transit, but the most serious result from shipping scabby apples follow in the growth of the blue mold and the pink mold, or rot, in the tissues around the diseased spots. These secondary troubles grow rapidly if the fruit is warm and moist in transit, but are retarded by cold temperatures, the former disease growing very slowly in a temperature as low as 32 degrees Fahrenheit, the latter not developing when the temperature drops to 40 degrees Fahrenheit.

The monilia or brown-rot of the peach, a serious transportation trouble, may attack the fruit before or after it is picked. The peach is especially susceptible in warm, moist seasons, when the early varieties may decay badly on the trees. The disease grows with astonishing rapidity, a small point of infection developing into a spot as large as a quarter of a dollar in twenty-four hours in warm weather. Delaying the shipping of the fruit a few hours, or shipping it without a thorough icing and ventilation in transit, is invariably followed by a large amount of decay. This rot is most severe in the comparatively warm, moist air in the top tiers of packages in a refrigerator car. There may be none of the trouble in the cooler bottom tiers of the packages. This condition in the different parts of a car leads to the conclusion that the monilia and the over-ripeness can both be controlled in transit when all of the fruit is cooled as quickly as the bottom tiers of packages.

The diseases that affect the fruit after picking cause the most serious losses in transit. The molds of various kinds, such as Penicillium, Mucor, Aspergillus, and Botrytus, probably cause more losses in transit and in fruits in cold storage than all the other diseases combined. The blue molds (Penicillium) produce the principal rots in apples and pears in storage and in transit, and in oranges and lemons in transit. These molds do not usually penetrate the uninjured surface of thick-skinned fruits like the orange, the lemon, the apple, or the pear. The delicate fruits, like the strawberry, are more easily attacked by a mold like Botrytus. The molds attack all fruits more readily when their vital processes

THE SWEEPSTAKES CARLOAD AT THE NATIONAL APPLE SHOW, SPOKANE, FROM EAGLE POINT, OREGON

Note the splendid diagonal pack. The show will be held this year November 14 to 19

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are at low ebb from over-ripeness or from any other cause, but they gain entrance to a fruit commonly when a spore comes in contact with a broken part of the skin, the disease growing rapidly if there is sufficient moisture, with a temperature high enough to start it.

These diseases grow luxuriantly in warm, moist air. The limits of temperature in which they will grow are not well understood. Some of the blue molds probably grow at the freezing point of water, though slowly at a temperature below 40 degrees Fahrenheit. If the fruit remains in the orchard in warm weather after picking the molds develop rapidly in injured fruit.

Another type of injury is due to packing the fruit so loosely that it moves in the package in transit, or to severe pressing, or to rubbing the fruit in any way. This injury is apparent on arrival in market. It frequently shows in brown, discolored spots on the Yellow Newtown apple or on the Wickson plum when the latter comes in contact with the package. It is primarily a packing difficulty that may be overcome by wrapping the fruit and by packing it more carefully.

The care with which a fruit is handled in the orchard or plantation and in the packing house is one of the important factors in determining the shipping quality. It is the one factor above all others that keeps the thick-skinned fruits, like the orange or the apple, immune from the attacks of the common molds. These fruits do not often decay as long as the skin is whole, unless they are weakened by over-ripeness or by other adverse conditions. The least abrasion or cut in the skin gives the molds a foothold, and once started the decay is likely to continue under the most favorable transportation conditions.

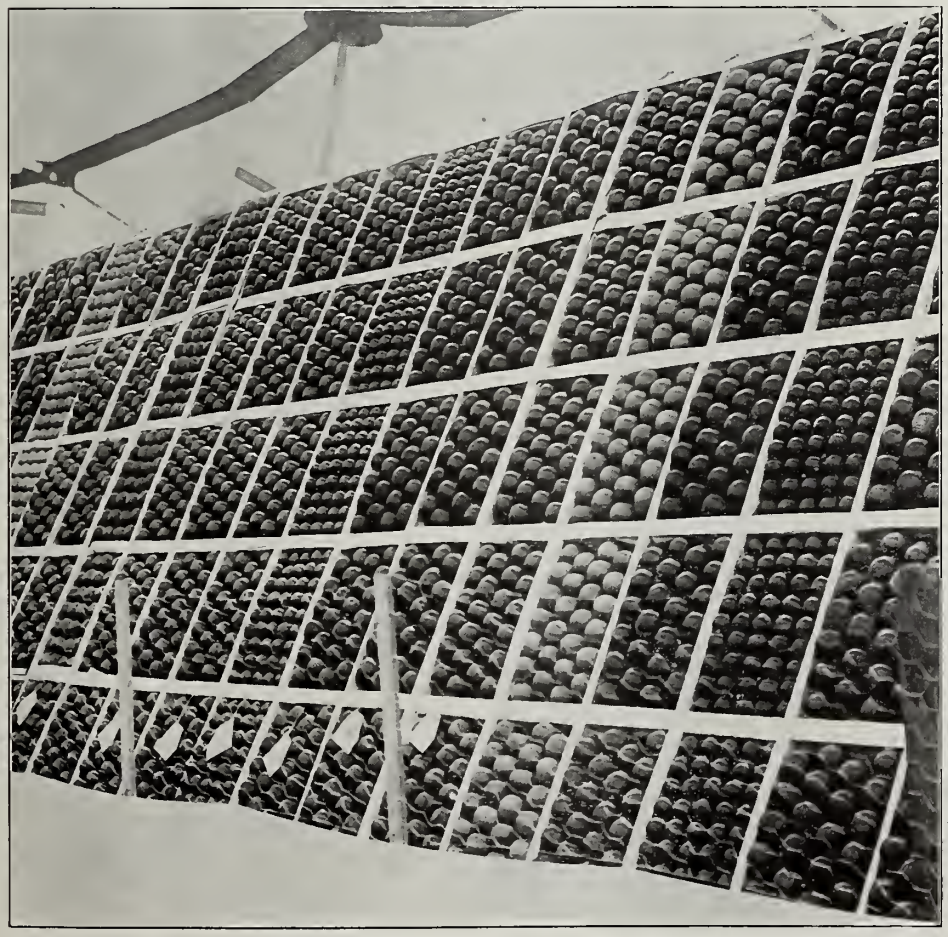
CARLOAD OF COMMERCIALLY PACKED APPLES FROM THE BITTER ROOT VALLEY, MONTANA, AT THE WESTERN MONTANA APPLE SHOW, MISSOULA

It is equally important that soft fleshed fruits like the strawberry and the raspberry, be protected from injury. No fruit is more difficult to transport than a ripe strawberry; yet it can be shipped long distances and arrive in perfect condition under efficient refrigeration if the surface of the berry is intact.

It is well to know that decay in fruit in transit and in storage generally develops from a wound on the surface, though few persons know how common these injuries are. The commonest injuries are caused by the punctures of insects, by the stem of one fruit penetrating another, by cuts from the finger nails of the handler, by dropping the fruit on a sharp surface, by ruptures caused by the rapid growth of the fruit, by windstorms, or by cutting the surface in some way.

There has been a gradual improvement since the beginning of the fruit business in the methods of handling the crop. The early, crude manner of harvesting and packing is giving way to better methods in the orchard and in the packing houses. There needs to be further improvement along these lines in every branch of the fruit industry. In the apple industry, for example, where the crop is handled with more than average care, 10 per cent of the fruit is frequently made susceptible of decay by stem punctures caused by dropping the fruit roughly into the basket, on the sorting pile or table, or into the shipping package. A package of peaches will reveal a greater number of bruises, the trouble arising from the tearing of the skin in pulling them from the stem, from packing it so firmly as to squeeze the fruit against the edges of the package, and from the pressure of the fingers of the picker; and, in addition to these causes, many injuries are the result of the rough handling of the packages in the orchards, in the packing houses, and in loading them in the cars. The softer fruits, like the strawberry, are damaged in the ordinary course of handling to a still greater degree.

None of the thick-skinned fruits are injured in handling more than the orange.



SECTIONAL VIEW OF FIVE-BOX COMPETITION COMMERCIAL PACK, NATIONAL APPLE SHOW, SPOKANE. REPRESENTING APPLES FROM EVERY SECTION OF PACIFIC COAST

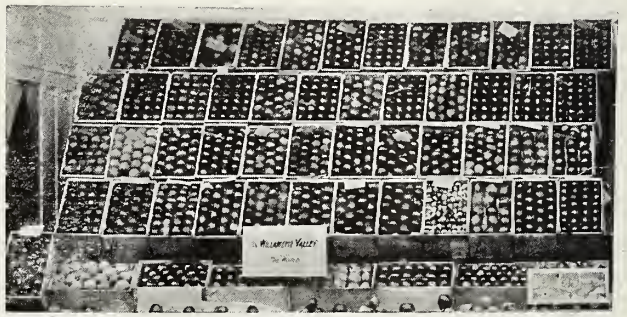
BLUE RIBBON DISPLAY OF COMMERCIALLY PACKED APPLES AND PLATE DISPLAY FROM THE WENATCHEE VALLEY AT THE WASHINGTON STATE FAIR

The orange is not picked like an apple or a pear by separating it from the fruit spur. The fruit is attached firmly to the branch, from which it must be cut off with shears or clippers to prevent tearing the skin around the stem. In a variety like the Washington Navel, having a distinct cavity at the base, the picker often sticks the clippers into the edge of the cavity beyond the stem, especially if a sharp pointed pair of shears is used. If the stem is cut too short, the skin may be shaved with the clippers, or if too long, the stem may puncture another orange with which it comes in contact. If the fruit is packed in a house equipped with machinery, the chances for bruising are further increased.

Until recently, when the attention of the grower and packer were directed to these injuries, it was difficult to find a box in which 10 per cent of the fruit had not been mechanically bruised. The injury from clipper cuts alone may vary from 5 to 50 per cent. In addition the oranges may have been injured by stem punctures or by fingernails of the picker, and still more bruising occurs in the field in dropping the fruit roughly into bags, boxes or baskets, by filling boxes too full, or by throwing the packages carelessly on or off the wagon.

It is more difficult to locate the cause of injury in packing the fruit. There is a wide variation in the equipment and management of packing houses and in the care exercised in packing the fruit in the field. In machine equipped packing houses these troubles are likely to result from an apparently trifling disarrangement of some part of the machinery. In an orange or lemon packing house the fruit may be cut or scratched by a wire that projects from a brush, by a nail protruding in a runway, by a sharp corner exposed without padding, or by some other mechanical defect. Ten per cent of the peaches or plums in a package often have the skin broken by the sharp edges of the baskets or boxes, especially when the fruit extends above the package. A similar amount of injury may result in covering the packages with undue pressure or in dropping the fruit in some part of the packing operation. Few experienced fruit handlers realize how much the fruit is injured in the orchards, plantations and packing houses. The fruit shipper is likely to seek an explanation of the losses in transit in factors other than the condition of the fruit when it is shipped. This phase of the fruit business is one that needs to be made more prominent and which requires a determined effort to improve. An efficient labor foreman who appreciates the nature of these troubles can reduce to a minimum such bruises as result from the dropping of an apple or a peach, or from the clipping of an orange. The writer has seen an average injury of 20 per cent of the oranges in a grove in which more than 100 men were employed, reduced to 5 per cent in a few days by the persistent efforts of a competent foreman, with an additional cost of less than one-half cent a box for the more careful picking.

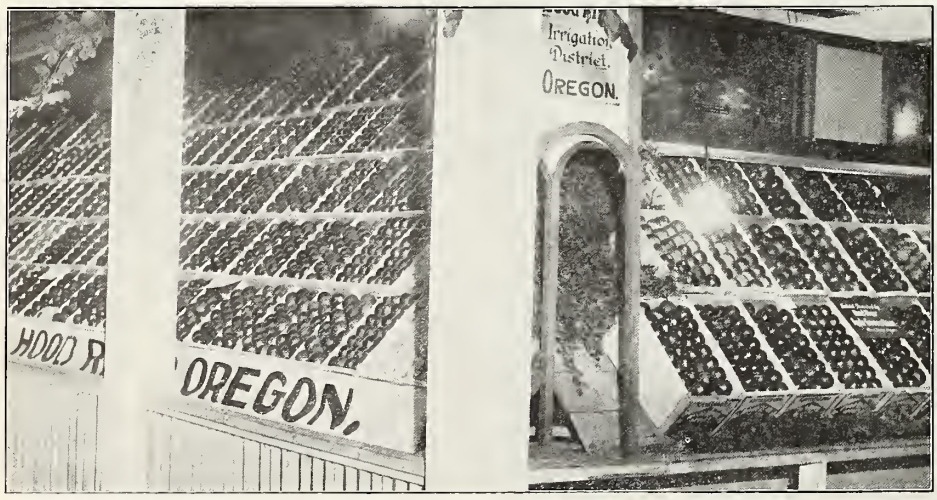
The responsibility for rough handling may often lie back of the individual picker or packer. It is often the result of the system of handling the labor and the fruit in the plantations and packing houses. The fruit growing business has not yet developed to that point where every picker or packer is held responsible for the quality of his work. No two persons handle the fruit with equal care. One orange picker, for example, may cut 1 per cent of the fruit in picking, while another injures from 50 to 75 per cent. One leaves 5 per cent with stems too long; another 50 per cent. A careful apple picker or a peach picker may not injure 2 per cent of the fruit by pinching it, while a clumsy handed picker may bruise 90 per cent.



WILLAMETTE VALLEY COMMERCIALLY PACKED APPLES EXHIBITED AT PORTLAND, OREGON

The first annual Oregon Apple Show, in connection with the twenty-fifth annual State Horticultural Society meeting, will be held at Portland in November. Exact date to be announced later.

These differences are common rather than unusual. They may be overcome to a large extent by the persistent effort of those in charge of the labor, but a system by which the fruit of every picker or packer can be identified might be adopted in order that the persistently careless worker may be eliminated. If the picker and the packer each places a number, or a numbered ticket, on the package when the fruit leaves his hands, an inspector is able to trace the fruit to the one who is responsible for the handling. An efficient system of inspection of the work in the plantations and packing houses is an essential feature of the organization of a large fruit business. In cases like the California orange



CARLOAD OF COMMERCIALLY PACKED APPLES FROM HOOD RIVER, OREGON, AT THE LAND AND IRRIGATION EXPOSITION, CHICAGO, IN CHARGE OF JOSEPH A. WILSON AND SAM CAMPBELL

industry, where the growers of a community may pool the fruit, the inspection of the work of the individual picker by the grower and of the fruit of each grower by the management of the packing house is necessary to prevent an injustice to a careful handler who may otherwise pool his fruit with oranges showing a large amount of injury.

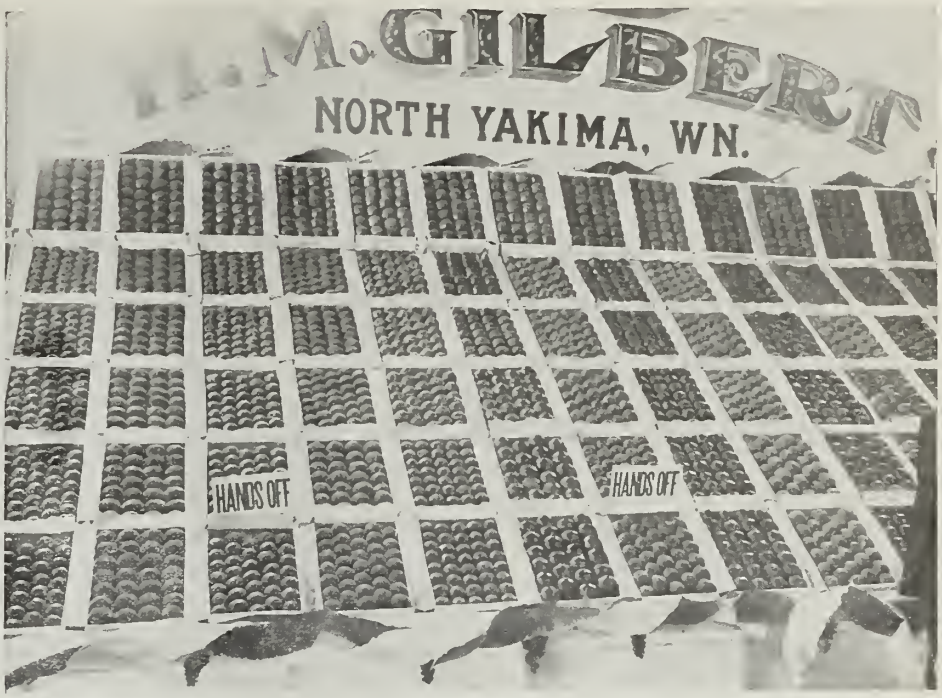
Another prolific cause of careless handling in the orchards and packing houses comes from paying the labor by a package rate, without inspecting the work of the individual. Under these conditions, the quantity rather than the quality of the work is the prime consideration of the picker or packer, and it often leads to the most flagrant carelessness. If the work of the individual can be traced by an inspection system, this method of fruit handling is less objectionable.

A cold, dry, pure air is ideal for the preservation of fruits of most kinds. Cold air checks the ripening processes and retards the growth of diseases. Dry air may prevent the development of rots, and pure air preserves the delicate quality of the fruit. The ripening must be checked soon after the fruit is picked to prevent premature deterioration. Ripening proceeds much more rapidly when a fruit is severed from the tree, so that it comes nearer the point of deterioration in a few hours or days than it would have been if left hanging on the tree in the same temperature for a much longer period. In cold storage the rots develop and most fruits ripen if the temperature remains much above 32 degrees Fahrenheit for any length of time. The molds grow if the room is moist; the flavor deteriorates if the air is impure. If the temperature throughout the room is not uniform, the stored products ripen unevenly. If the products are not piled so that the air can circulate freely about the packages, the ripening may proceed and the rots develop before the fruit is cooled.

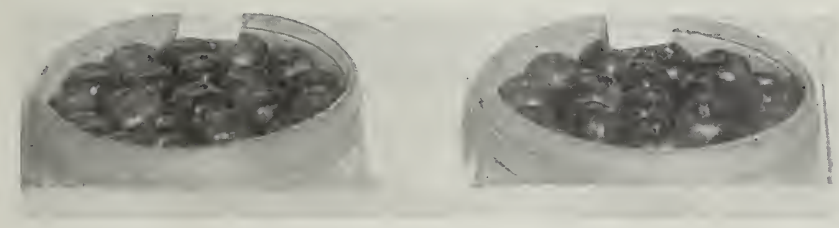
The behavior of products in cold storage depends on their condition when stored, as well as on the conditions in the storage house. If fruit is bruised and susceptible to rot, the molds that grow in low temperatures cause it to decay early in the storage season. If it ripens or diseases develop during delays in storing, the fruit breaks down prematurely; or, if the packages are large and radiate the heat slowly, the fruit in the center of the package ripens and decays early in the storage season. These are some of the fundamental principles that govern the successful cold storage of fruit. They apply with equal force to the transportation of most fruits in cold temperatures. The successful transportation of perishable fruits in refrigeration depends primarily on the sound condition of the fruit; on cooling it soon after it is picked; on shipping it in packages which cool quickly throughout; on a dry, pure, cold air uniformly distributed in the car or compartment, and on a free circulation of air throughout the packages.

The principal difference between a cold storage warehouse and a refrigerator car lies in the poorer control of the conditions in the latter. The temperature is higher, the moisture is greater, the distribution of cold air less uniform, and the refrigerating power less efficient.

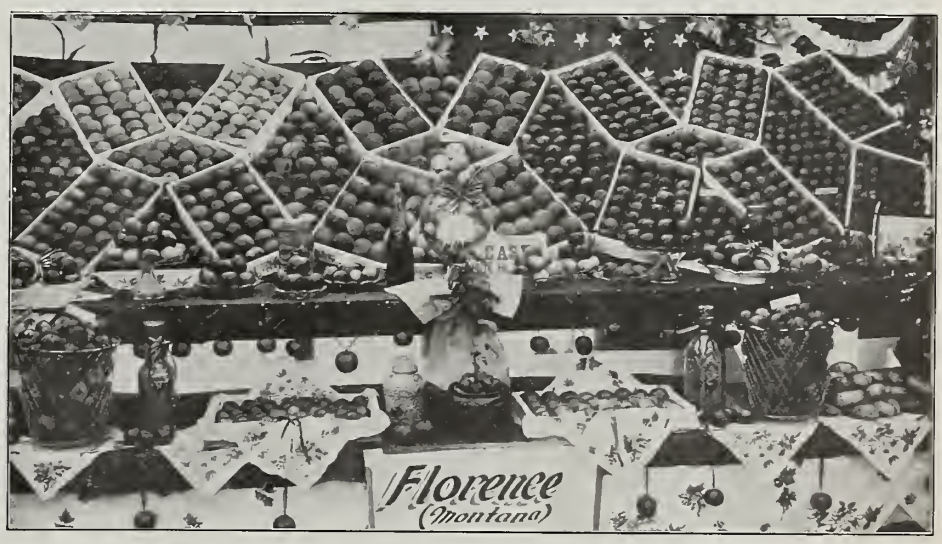
Perishable fruit is usually loaded for shipment soon after it is packed, the temperature of the fruit approximating the temperature of the atmosphere. In the South and in the Western semi-arid parts of the country it is sometimes loaded at a temperature of 95 degrees Fahrenheit. In the refrigerator cars in common use the temperature may drop to 40 to 50 degrees Fahrenheit after a few days in transit; but the top and center of the car are usually several degrees warmer than the bottom and the ends.



COMMERCIALLY PACKED APPLES EXHIBITED BY H. M. GILBERT, NORTH YAKIMA, AT WASHINGTON STATE FAIR



FANCY PACKED BARRELS OF APPLES AT NATIONAL APPLE SHOW, SPOKANE
Grown and packed by F. R. DeHart, Kelowna, British Columbia

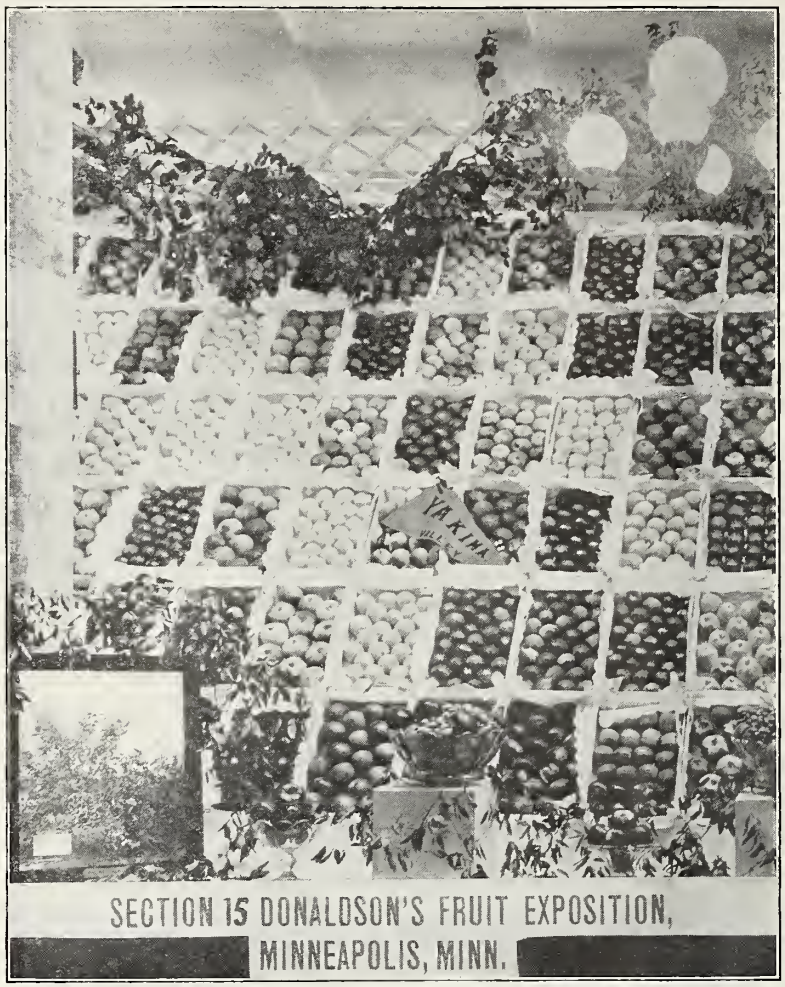


BEAUTIFUL GENERAL EXHIBIT FROM FLORENCE, MONTANA, AT WESTERN MONTANA APPLE SHOW, MISSOULA, MONTANA

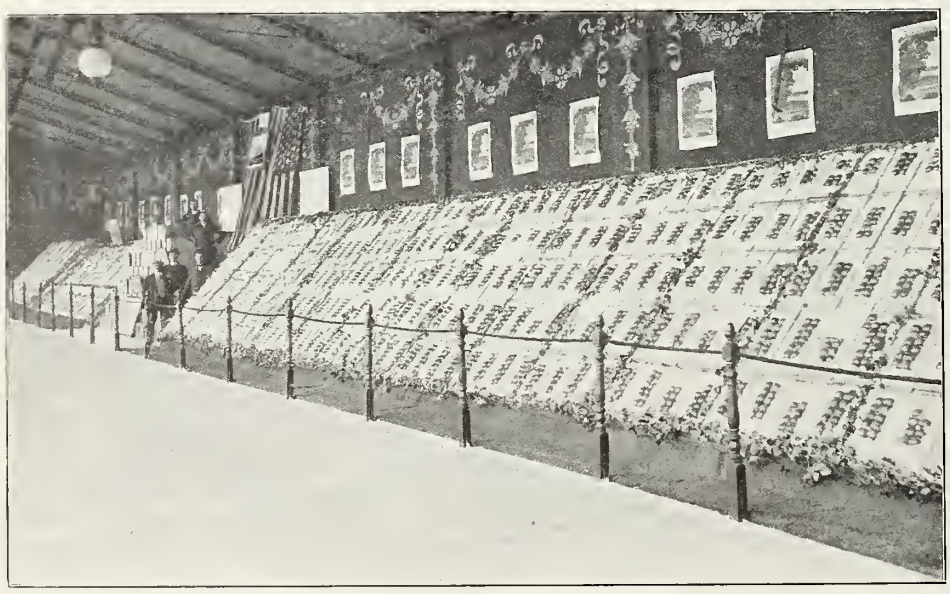
A car of peaches packed in Georgia carriers, which allow a free circulation of air around the fruit, may cool gradually to 42 to 45 degrees Fahrenheit in three days in the bottom of the car if the fruit is at 85 degrees Fahrenheit when loaded. At the same time, the fruit in the top of the car may be 10 degrees warmer. A car of peaches in which the fruit is wrapped and packed in twenty-pound boxes which are piled closely together, may take twice as long to cool down on account of the insulating effect of the paper and the poorer circulation of air between the boxes. The temperature in a refrigerator car continues to fall uniformly. It seldom rises in transit if the icing is done well.

In the first few hours or days of the journey, while the fruit in a refrigerator car is warm and moist, the rots and the ripening processes develop rapidly, and they continue unchecked longest in the warmer air in the top and center of the car.

The foregoing remarks are made to bring out the need of further improvement, not only in the preparation of fruit for shipment, but in the conditions in transit as well. There has been a gradual improvement in the methods of refrigeration in transit from the pony refrigerators in use forty years ago, from the cooling by vertical cylinders in each corner of the car and from cooling with V-shaped ice boxes suspended from the roof of the car. The refrigerator car of the present time is generally a well-built, thoroughly insulated structure capable of maintaining a uniform degree of cold under ordinary icing, after the fruit is cooled. Except in extreme cold weather, the temperature in a well-built car may not fluctuate two degrees in ten days. The most important improvement needed is a practical method of reducing the temperature of the fruit quickly in hot weather to prevent further ripening and the development of rots during the early part of the trip. This improvement might be made by increasing the refrigerating power and by equalizing the distribution of cold, dry air in the car. Or it could be accomplished by cooling the fruit before loading and maintaining refrigeration in transit only, as in the present methods of meat shipment. The discussion following will be confined largely to the preparation of the fruit for shipment rather than to the technical side of refrigerator car improvement.



APPLE EXHIBIT FROM YAKIMA VALLEY, WASHINGTON



FINE COMMERCIALLY PACKED DISPLAY OF APPLES FROM CALIFORNIA

The fruit grower or handler can improve the carrying quality by delivering the fruit to the car or steamer in a cool condition. There is often a difference of 20 to 40 degrees Fahrenheit between the temperature of the air during the night and day, especially on the Pacific Slope. The cool night air ought to be utilized to the fullest extent in cooling the fruit. Peaches that are picked at midday or in the afternoon, then packed at once and delivered to the car may be at least 20 degrees warmer than fruit picked early in the morning. If picked in the afternoon they should be delivered to the car the morning following, after standing in open packages exposed to the cool night air. A gain of 15 to 20 degrees in cooling before the fruit is loaded is a practical help to the carrying quality of the fruit. After the fruit is in the car, the temperature can be reduced more rapidly and to a lower degree by using a mixture of salt and ice instead of the large cakes of ice that are now in common use. Meat is refrigerated before shipment and is carried at a temperature ranging from 34 to 40 degrees in transit by the addition to the broken ice of about 80 to 100 per cent of salt.

A cold storage house is the most efficient place to cool down fruit before shipping. The first shipments under

those conditions known to the writer were made by Mr. Parker Earle, in Illinois, as early as 1872. Mr. Earle was a pioneer in both fruit and the refrigerator car industries. On account of the serious losses in shipping strawberries in the early types of refrigerator cars, which held but one and a half tons of ice, he constructed several storage houses cooled with ice, in which the berries were cooled to about 50 degrees Fahrenheit before shipment. Before this time it had not been possible to ship strawberries to distant markets in sound condition, but fruit cooled in this way arrived at destination firm and sound. A little later Mr. Earle, with Mr. F. A. Thomas, developed a refrigerator car holding five instead of one and a half tons of ice. These cars carried the fruit so much better than the earlier cars that cooling in houses before the fruit was shipped was not extended at that time. In recent years this phase of the fruit shipping business has received more attention on account of the more exacting conditions in the fruit trade as a whole.

Eastern-grown pears, for export, are refrigerated in cold storage warehouses alongside the railroad before shipping. The pears are generally cooled after packing, as cold fruit condenses the moisture of the air and becomes wet if packed in a warm room. Sometimes the fruit is refrigerated in open-headed barrels or in picking boxes, and is afterwards packed in a cool room. Peaches that ordinarily develop considerable decay in the top tiers of packages have been shipped by the United States Department of Agriculture, after cooling to about 40 degrees Fahrenheit, and have reached distant markets in prime condition. In one shipment of 8,000 packages, less than 1 per cent of soft and decayed fruit developed in the two upper tiers, while 5 to 30 per cent developed in cars cooled in the ordinary way.

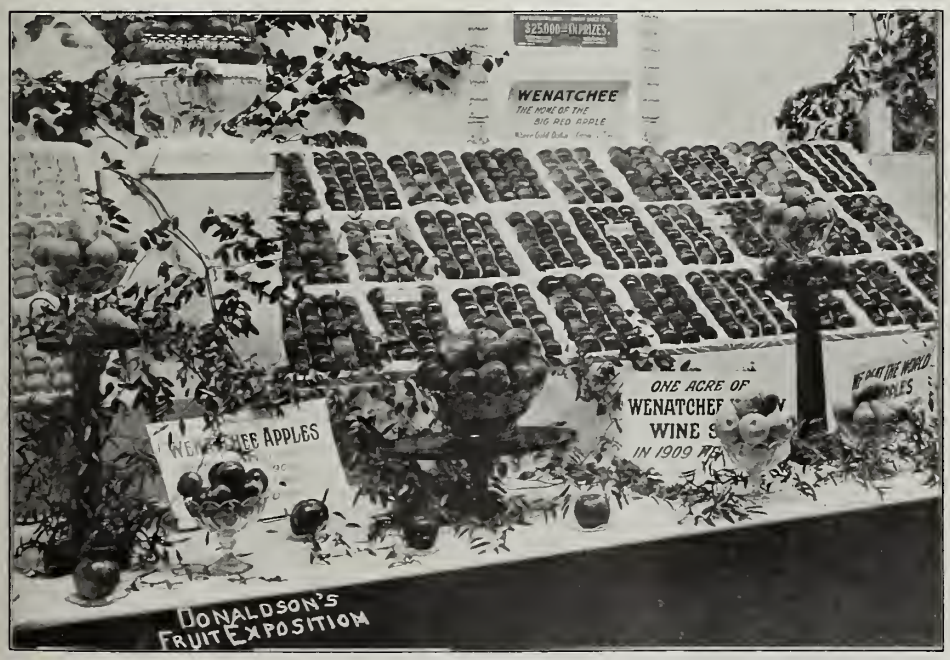
BOX APPLES FROM KENNEWICK, WASHINGTON

At Coachella, in the semi-desert Imperial Valley of California, a cold storage plant has been erected for the manufacture of ice and for the cooling of cantaloupes before shipment. It was operated during the latter part of the season of 1905. The melons are frequently above 100 degrees Fahrenheit when picked, and when they are shipped without previous cooling are likely to arrive at destination in an over-ripe condition. The temperature is reduced to about 40 degrees Fahrenheit by placing the packed crates in a cold room, after which the melons are promptly loaded in an iced car, the fruit being protected against exposure to the warm air during the loading.

Cold storage plants of this kind might be erected by the side of railroad tracks by large fruit growers or shippers, by associations of growers or shippers, or, in some instances, by refrigerator car line or railroad companies and handled as a part of the refrigeration service.

Cold air is sometimes forced through the fruit after it is loaded in the car, in order to cool it quickly. This method was used by the Los Angeles Ice and Cold Storage Company, Los Angeles, California, in cooling oranges for the shipping experiments of the United States Department of Agriculture, in 1905. Cold air was blown through a large insulated tube leading from a bunker room in the storage plant to the ice trap in the end of the car. From a trap at the other end of the car another tube led back to the warehouse. The cold air was blown into the car at a temperature of 32 degrees Fahrenheit, and after passing through the car, was drawn back by an exhaust fan to the warehouse, where the moisture and gases from the fruit were frozen on the refrigerator pipes. The direction of the air current through the car could be changed. Although a powerful air current was used, it required from thirty to fifty hours to cool the fruit in the center of the packages to 40 degrees Fahrenheit.

Continued on page 74



WENATCHEE VALLEY, WASHINGTON, APPLE EXHIBIT AT THE DONALDSON FRUIT EXPOSITION, MINNEAPOLIS, MINNESOTA

Photo by Hibbard Co., Minneapolis

PICKING, PACKING AND GRADING PEARS AND APPLES

BY A. B. CHANDLER, GRAND JUNCTION, COLORADO

MOST of the pears in Grand Valley are Bartletts. They are picked according to size. Pick nothing less than two and one-half inches in diameter for the first two or three pickings. Shrink all pears from twenty-four to thirty-six hours in the shade of the trees or in the packing house. All pears will shrink about one-fourth of an inch in diameter, so your two and one-half inch pears will be two and one-fourth inches after shrinking, which will make a good five-tier pear. All other pears are picked according to maturity and are packed the same as the Bartlett. Wrap all pears so as to form a cone at the stem end of the pear.

The bulge should be from three-quarters to one inch on the top and bottom of the box. The size of the pear box is 8½x11½x18⅜ inches.

Following is the pear grading list of the Grand Junction (Colorado) Fruit Growers' Association:

Fancy—Must be free from worms, smooth and of good shape; gross weight fifty-three pounds or more. The number of tiers must be stamped on the box. Four-tier pears should measure from two and three-fourths inches in diameter and larger; five-tier pears, from two and one-fourth to two and three-fourths inches; six-tier pears, two and one-fourth inches in diameter and down, but not so small but what they will make a good heavy six-tier pack. A five-tier pear is a three-three pack and not over six long, which would make not over 180 pears in a box.

Choice—This grade should consist of pears which are slightly scarred or otherwise defective, and reasonably free from worms. Not culls; in fact, stock only a little below fancy.

A four-tier pear is packed by laying three pears with the calyx, or blossom end, of the pear toward the end of the box, one in each corner, dividing the space between these two with the third one; then turn two pears with the stem end toward the end of the box, and continue a three-two pack. All pears are packed with the stem toward the packer except the first pears in each layer. Six pears long in the box, the tier will contain thirty pears and four such tiers will make 120 pears to the box. This is the smallest pear that will make a good four-tier pack. All the pears being about two and three-fourths inches in diameter. Pears a little larger, put three rows six long and two rows five long in the first tier and three rows five long and two rows six long in the second tier. This makes twenty-eight in the first tier and twenty-seven in the second tier, or 110 in the box. Still larger pears, with five long in the box, make twenty-five to the tier or 100 to the box.

A five-tier pear is packed a three-three pack by laying three pears with the calyx or blossom end toward the end of the box. Put one pear in the corner and divide the remaining space across the end of the box equally between the other two pears. Then place three more pears in the open spaces with the stems toward the end of the box.

There should not be over six pears long in the box or thirty-six pears to the tier and five tiers to the box, making 180 pears. This is the smallest pear that will make a five-tier pack. All pears being about two and a half inches in diameter.

Pears a fraction larger put three rows six long and three rows five long, making thirty-three to the tier or 165 to the box.

Pears still a fraction larger, with five pears long, thirty to the tier or 150 to the box.

Pears nearly two and three-fourths inches in diameter, with three rows five long and three rows four long, will make twenty-seven pears to the tier or 135 to the box.

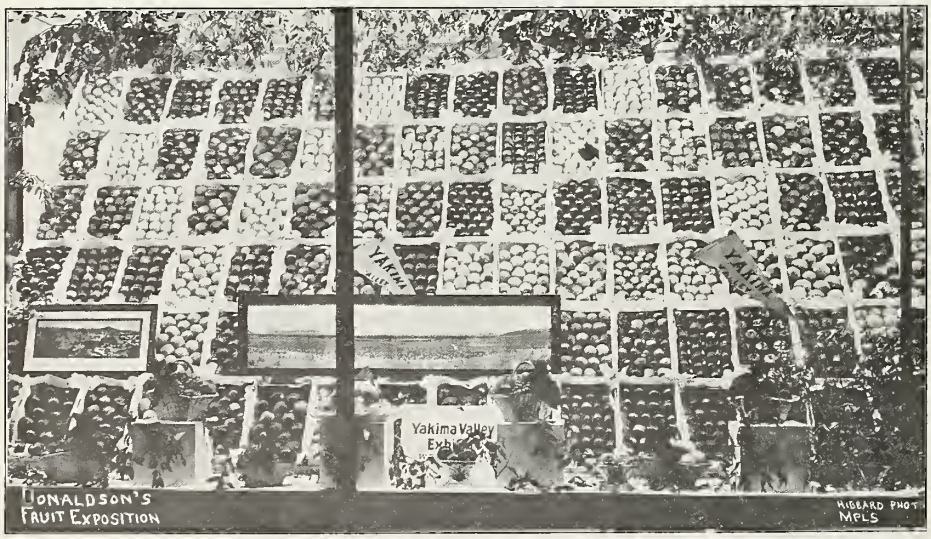
All pears under two and one-fourth inches in diameter are packed the same as the five-tier, only there are six tiers.

The Grand Junction Fruit Growers Association has adopted the following grading list for apples:

Fancy—Grimes Golden, Red Romanite, Geniton and kindred varieties must be two and one-fourth inches in diameter, and larger; Winesaps and Missouri Pippin must not contain to exceed 15 per cent of two and one-fourth-inch apples, all others must be larger; Ben Davis, Jonathan, Arkansas Black, Gano, Willow Twig, Shackleford, Pearmain, Mammoth Black Twig, Rome Beauty, White Winter Pippin, Mann, Tallman Sweet, Dominie, McIntosh Red, Wealthy, Steels Red, Lawver, Baldwin, Huntsman, Spy, Stark, Minkler, Smith Cider, Walbridge, Pewulkee, York Imperial, and kindred varieties, should be two and one-half inches in diameter, and larger, absolutely free from worms and all other defects, bright and normal color, shapely in form and well matured.

Choice—Should not be less than two and one-half inches in diameter and reasonably free from worms. In other words, stock a little below fancy.

Do not wrap the apples, but line the box with a neat-looking paper. Only place two layers in the box. The first layer put in with the stems down, a three-two pack; make it good and tight. The second layer is laid with the highly colored side of the apple so it will show through the open spaces of the first layer when the box is opened. Apples for the face of the box should be of an average, uniform size, and of a bright color. The box is filled promiscuously until the last layer, when the stem is turned up so as not to bruise the apples, as it gives more surface to press the cover on. There should be from one-half to three-fourths of an inch bulge on both top and bottom of the box. No standard weight.



YAKIMA VALLEY, WASHINGTON, APPLE AND FRUIT EXHIBIT AT DONALDSON FRUIT EXPOSITION, MINNEAPOLIS *Photo by Hibbord, Minneopolis*

EUROPE AS A MARKET FOR OUR APPLES AND PEARS

GREAT BRITAIN is not, in a general way, an apple growing country. Ireland is perhaps the best apple producing section of the empire, but its production does not exceed over 50,000 barrels. The apples grown in Ireland are especially prized for cooking purposes, and there is no doubt but that the production of cooking apples will tend to increase, but it will be many years before it will have any appreciable effect upon the market. The Department of Agriculture is endeavoring to encourage apple growing by establishing experimental orchards and giving instruction in horticulture in various districts.

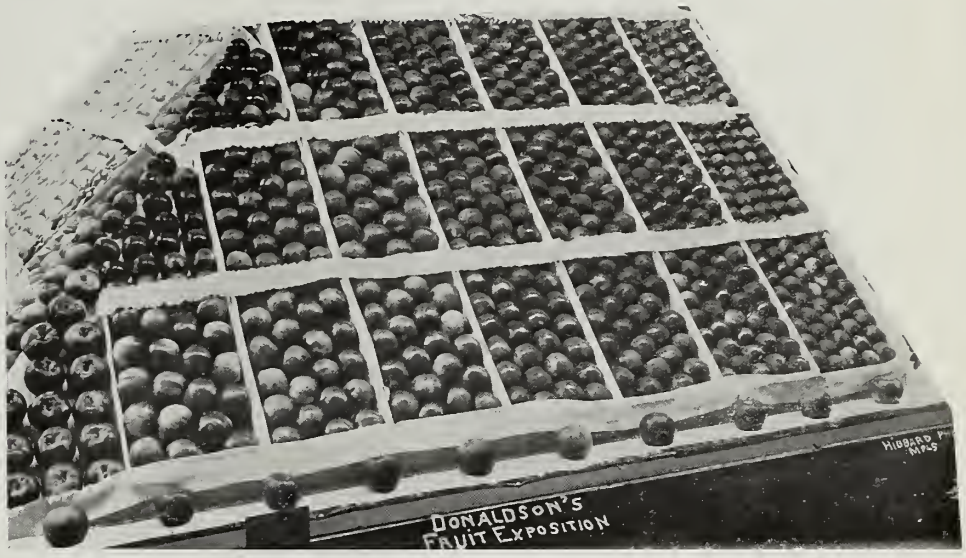
The table given shows the importation of apples into Great Britain for four years, together with the countries of their origin. A review of the apple importation into Great Britain for a period of years prior to this schedule shows that for a number of years the annual importation amounted to between five and six million dollars. In 1892 the imports, for some unknown reason, nearly doubled, and reached about $10,000,000, and since that time they have remained close to that value, varying only slightly either way, and for the last year of statistics, 1908, the total imports amounted to $10,398,500. It seems clear, therefore, that there is little likelihood of any decrease in this quantity of imports of apples into Great Britain. There is a fair prospect, under favorable conditions of industrial prosperity, of this amount being considerably increased.

American Consulate,
Belfast, Ireland, March 15, 1910.

Editor Better Fruit:

I take pleasure in enclosing you a copy of a report made to W. K. Newell on "The Apple and Pear Markets of Europe," which may be of some special interest to you.

Very truly yours,
Henry B. Miller, Consul.



BITTER ROOT VALLEY, MONTANA, EXHIBIT AT THE DONALDSON FRUIT EXPOSITION MINNEAPOLIS, MINNESOTA

Hibbard Photo, Minneapolis

IMPORTATION OF APPLES INTO THE UNITED KINGDOM

From	*1905*	*1906*	*1907*	*1908*
Germany	$ 19,385	$ 70,390	$ 20,890	$ 7,695
Netherlands	141,105	64,480	100,580	118,220
Belgium	121,800	126,395	176,560	475,265
France	276,440	80,585	107,240	365,420
Portugal	220,165	228,395	171,585	212,440
Spain	122,760	17,780	81,880	5,165
United States of America	4,684,340	4,342,190	4,299,000	3,649,215
Other foreign countries	1,020	1,040	1,935	1,935
Channel Islands	61,445	52,810	28,520	24,950
Australia—				
West Australia	.....	300	2,920	2,295
South Australia (including north territory)	139,770	117,715	59,115	264,115
Victoria	122,175	106,990	218,005	140,555
New South Wales	1,000	1,355	3,535	6,970
Queensland	.....	.....	.....	25
Tasmania	894,590	666,505	1,278,000	1,114,530
Canada	3,519,750	2,889,910	4,604,370	4,007,780
Other British possessions	320	535	2,400	1,440
Totals	$10,325,965	$8,767,885	$11,156,635	$10,398,515

BOX APPLES FROM THE BITTER ROOT VALLEY, MONTANA

The United States of America shares in this market to the extent of something over one-third, averaging for the past four years $4,000,000 per annum. Canada is now our strongest competitor, sharing about equally with us in the amount of exports. Belgium and France are the next in trade, Australia and Tasmania following. We are not competitors with the Australian and Tasmanian apples, for they come into the markets at a different time of the year, mostly during May and June, while our apples are almost entirely fall and winter varieties.

The great bulk of apples in the markets of Great Britain are shipped in barrels, and, measured by the Pacific Coast standard of quality and pack, are of a very inferior grade. The consumption of apples in Great Britain is, however, largely for cooking purposes, and on this account it consumes an enormous quantity of inferior and low grade stock. The bulk of these apples are bought by brokers from the orchard, thrown into the barrels in an indiscriminate and careless way, and shipped without thought or care for the reputation of the business. This style and method of handling fruit, when it is met by the superior skill and care of growers and shippers of the North Pacific Coast, will be very readily discovered in the trade. Scabby, wormy, scaly fruit is the rule rather than the exception in the apples shipped from the Atlantic Coast of the United States.

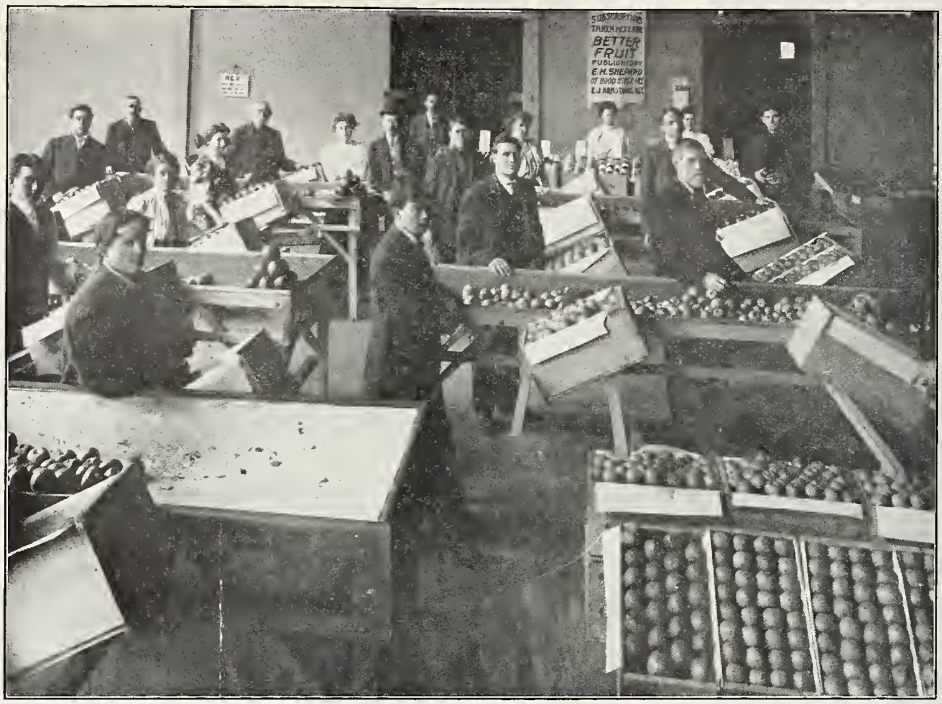
If the orchardists of the Pacific Coast continue to produce their present high quality of stock, and improve upon their methods of handling same by superior packing and enlarged and improved organizations of associations for reliable grading and marketing, there seems to be no reason why they should not command the largest part of the apple trade of Great Britain. The most serious diffi-

culty at present standing in the way is, not a sufficient quantity, with a well established reputation for quality and grading, together with too high cost of transportation. The reputation of Oregon apples in the British market now stands highest of all that are shipped from any part of the world. There is no question whatever concerning the possibilities of the Northwest producing a quality of fruit that will command this market. A little better understanding in relation to the varieties for the market in future plantings would be of great value. The taste of the British apple consumers demands a fruit filled with juice; a dry apple will never be popular here. Sufficient acid to make it a good cooker is also important.

The present cost of transporting a box of apples to the European market from the Pacific Coast is 75 cents.

The great market for the apples of the Northwest in Europe cannot well begin until the completion of the Panama canal. Considerable quantities of good trade stock will find a market here from now on, at a profitable rate, and shipments ought to increase very materially every year, but the market for the Pacific Coast apples is not likely to reach into the million dollar class until the completion of the Panama canal. By that time, however, shipments ought to reach in the markets of Europe from three to six million dollars per annum, and cost of transportation should not be over 35 cents per box.

If proper attention is given to this great future market by the States of Oregon, Washington and Idaho, the bulk of these shipments can be made from Portland by refrigerator steamers at a rate not to exceed 50 per cent more than the regular merchandise steamer rate. There is no apple growing district of equal value in production anywhere on the North American continent as close to tide water as the States of Oregon, Washington and Idaho, for which Portland can be the shipping center.



CLASS OF PACKING SCHOOL AT WORK PRACTICING THE PACKING OF APPLES AT WALLA WALLA, WASHINGTON
Instructor was Norman Tostevin, expert fruit packer, from Hood River, Oregon

Apples are coming into the British market in January and February from the Pacific Coast badly injured by freezing. This, of course, will not occur in shipments by steamer after the opening of the canal.

The following are the leading varieties of apples being imported into Great Britain, with their selling value according to the order in which they are mentioned: Grimes Golden, Yellow Newtown Pippin, King, Northern Spy, Jonathan, Russet, Baldwin, Gano and Ben Davis.

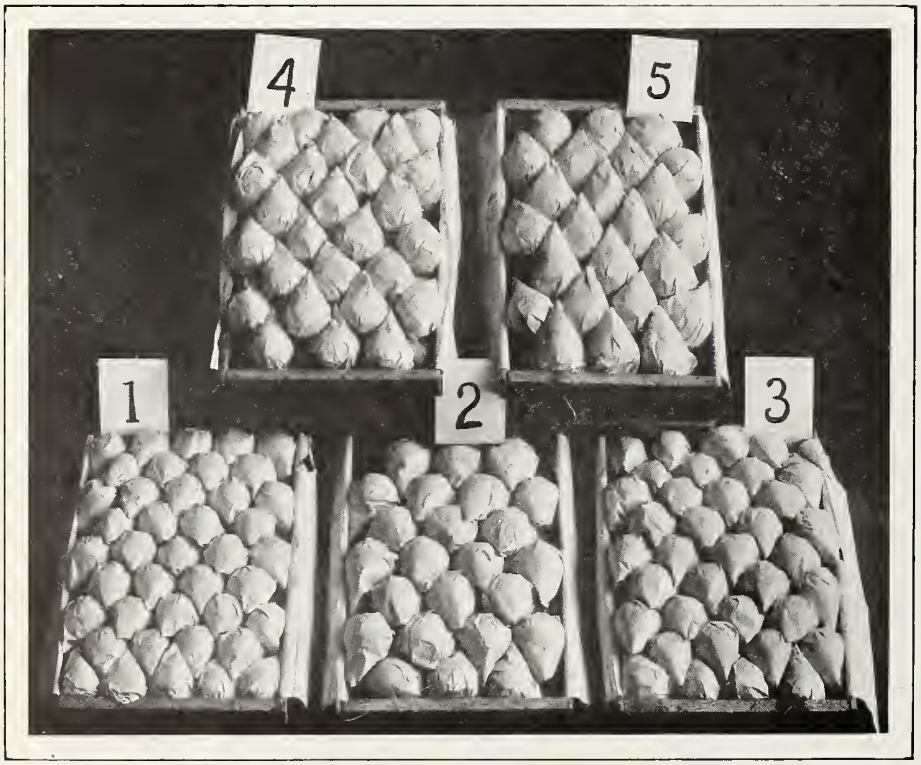
There are many other kinds in the markets, both in barrels and boxes, but it is safe to take the above as all being standard varieties.

Kings, Jonathans and the best of the Baldwins are marketed before the first of the year.

This year all the apples from irrigated districts have proved very unsatisfactory, especially those arriving after January 1, as from one-quarter to one-third are more or less decayed.

I have seen large, fine looking Winesaps, Rome Beauties and other equally hardy varieties from irrigated districts arriving in a bad state of decay, and dealers have entered a strong complaint.

I find that apples from non-irrigated districts coming into the markets after the first of the year uniformly bring the best prices.



FINE COMMERCIAL PACK OF PEARS FROM THE WENATCHEE VALLEY, WASHINGTON

IMPORTATION OF APPLES INTO GERMANY

From	1907 Bushels	1908 Bushels	1909 Bushels
Belgium	478,632	820,608	509,568
France	187,200	220,416	187,200
Italy	3,329,376	298,176	3,329,376
Netherlands	906,964	998,160	906,864
Austria-Hungary	2,140,656	3,005,472	2,140,656
Switzerland	1,193,136	2,986,464	1,193,136
Servia	168,576	.....	168,576
United States	442,992	207,600	442,992
Australia	75,888	64,272	.....
Totals	8,983,632	8,640,816	8,983,632

NOTE—The figures for 1909 are for the first eleven months only.

The value of the importations of fresh apples and pears into Germany has been between five and eight million dollars per annum for the past ten years. The share of the United States in this trade is comparatively small, but I am of the opinion that it could be very materially increased by a proper effort on the part of the

Pacific Coast growers to advertise and push their products.

Germany is making a creditable effort in the production of apples, and the number of apple trees planted in the empire is over 52,000,000.

German reports place the imports of pears and quinces together in the following table:

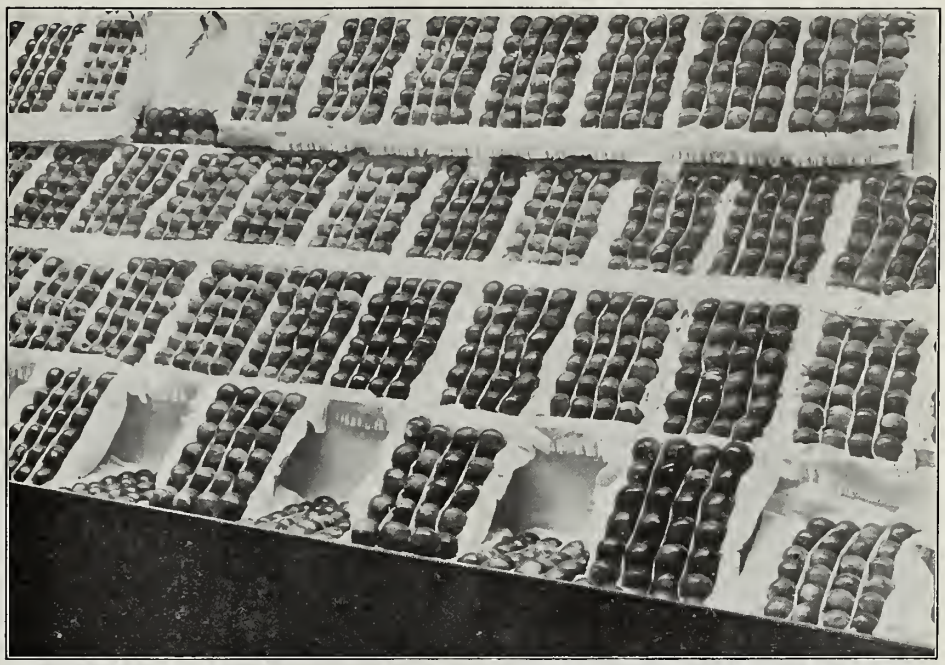
From	1907 Bushels	1908 Bushels	1909 Bushels
Belgium	349,300	300,950	459,600
France	208,700	.....	.....
Italy	173,900	181,550	278,950
Netherlands	402,100	158,100	308,300
Austria-Hungary	944,650	432,450	1,570,000
Switzerland	71,750	60,600	305,000
Totals	2,159,950	1,278,500	3,009,650

The average import price per 100 kilos (220.4 pounds) in 1907 was M.14.82 ($3.53); in 1908, M.13.13 ($3.12); in 1909, M.17.34 ($4.12). The average import price in 1907 and 1908 was about 1½ cents per pound, and in 1909 nearly 2 cents per pound.

From this table it seems that the United States has no part of consequence in the pear trade.

Not having had an opportunity of a personal inspection of the German fruit trade, I am not able to give detailed information that would be of value either in the apple or pear markets.

There are over 25,000,000 pear trees in Germany.



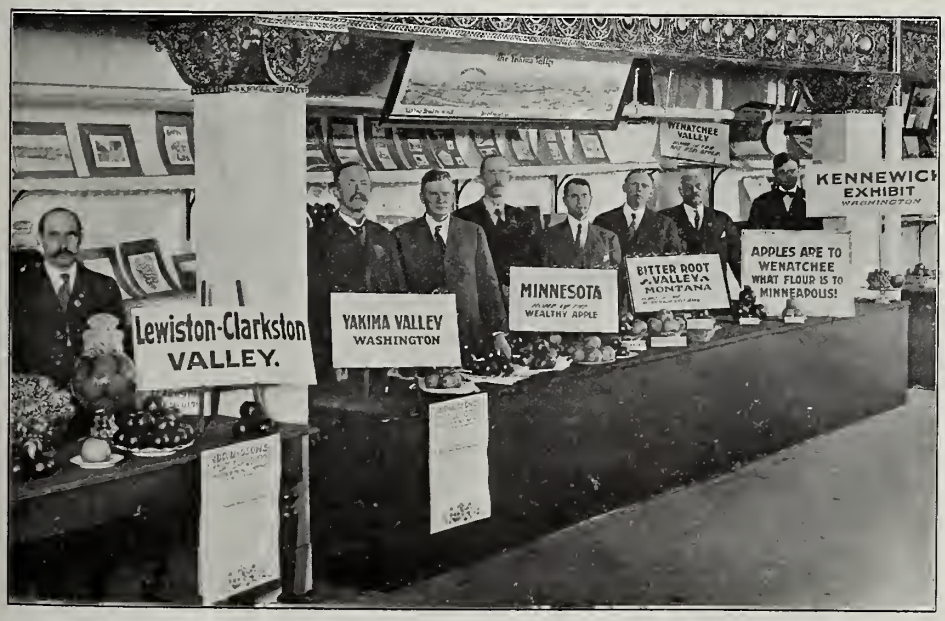
KENNEWICK, WASHINGTON, APPLE EXHIBIT AT THE DONALDSON FRUIT EXPOSITION MINNEAPOLIS, MINNESOTA *Photo by Hibbard Photo Co.*

IMPORTATION OF PEARS INTO THE UNITED KINGDOM

From	1905	1906	1907	1908
Germany	$ 59,080	$ 117,830	$ 87,425	$ 9,390
Netherlands	138,975	89,895	199,865	64,415
Belgium	221,455	327,630	611,715	422,430
France	1,019,205	1,736,055	1,190,270	1,415,310
United States of America	471,490	437,010	132,210	470,185
Other foreign countries	6,650	4,280	11,570	5,465
Channel Islands	19,240	52,595	30,845	29,570
Cape of Good Hope	6,440	20,395	35,365	56,100
Australia	44,560	23,765	75,240	23,290
Canada	51,965	51,905	18,540	83,455
Other British possessions	25	10	10	10
Totals	$2,039,085	$2,861,370	$2,393,055	$2,579,620

Pears to the value of two and a half million dollars are annually imported into Great Britain. This amount has been remarkably constant for the past five years.

France has a little over half of this trade, with Belgium usually second and the United States third. The Pacific Coast pear is becoming well established, and the Oregon fall and winter pears are beginning to make a first-class reputation. More of them is all that is required to enlarge the market, as dealers everywhere are calling for more of the Oregon fall and winter pears and offer every encouragement to the increase of the market. They do not speak so encouragingly of the market for summer pears.



REPRESENTATIVES FROM YAKIMA AND WENATCHEE VALLEYS AND KENNEWICK, WASHINGTON, LEWISTON-CLARKSTON VALLEY, WASHINGTON-IDAHO, BITTER ROOT VALLEY, MONTANA, AND FROM MINNESOTA, AT THE DONALDSON FRUIT EXPOSITION MINNEAPOLIS, MINNESOTA

Oregon can produce these pears that are particularly desired in this market, and in the planting of orchards considerable study should be given to varieties capable of good production in the different districts and fitted to this trade. The most profitable will be those suited to the holiday trade. A pear satisfactory to the Christmas trade will have little opposition in the British markets, because the French and Belgian pears are difficult to keep so late, and as soon as pears begin to soften the dealers do not care to handle them.

One of the finest openings for fruit, and one that I do not hesitate to commend to the attention of Oregon horticulturists, is this British market for winter pears. Fruit commission houses have been paying from two to three cents each for pears in twenty-pound boxes of from forty to fifty pears each.

The following varieties are common sellers: B. Clargeau, Beurre Hardy, Doyenne du Comice, B. de Anjou, Easter Beurre, American Duchess, Beurre D'Arenberg, Charles Ernest (this is an exceptional favorite as a winter pear), B. Magnifique, Glow Morceau (is a high priced and popular winter pear), Josephine de Malines (is one of the best winter pears). This season the Keiffer has been a splendid seller. Small pears, such as Winter Nelis, however luscious, do not seem to answer the demands of this market.

During the latter part of February this year large consignments of Bartlett pears came to the British markets from Cape Town, South Africa, under the name of "Bon Chrelien," also known in the street as "William pears." These pears were introduced from France to England by a man by the name of William, and therefore pass under his name here. The same pear was introduced into America by a Mr. Bartlett, and hence in the United States is known as the Bartlett pear. Thousands of boxes of these pears are

consigned into the British markets now, and will continue to come until some time in May. They come in small, single layer boxes of twenty-eight pears each, and sell here at one dollar per box from the commission houses. This fruit comes by steamer a distance of over six thousand miles, requiring about twenty days for the trip from Cape Town to London. Those that I have seen have been landed in fine condition. Unless Oregon can produce a pear that will compete successfully against the Bartlett for the spring

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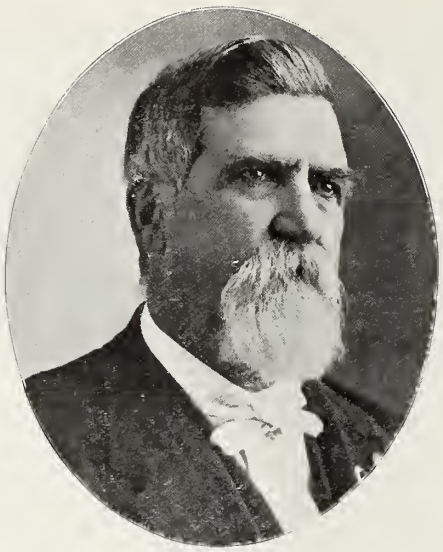
season, it would not be advisable to grow pears for this market to be delivered here after the end of January. The best opportunity seems to be to produce something good for the holiday season.

The Royal Horticultural Society of Great Britain is to a large extent re ponsible for the development of horticulture in South Africa. They are taking great interest in the production of fruit for the British markets in the various British



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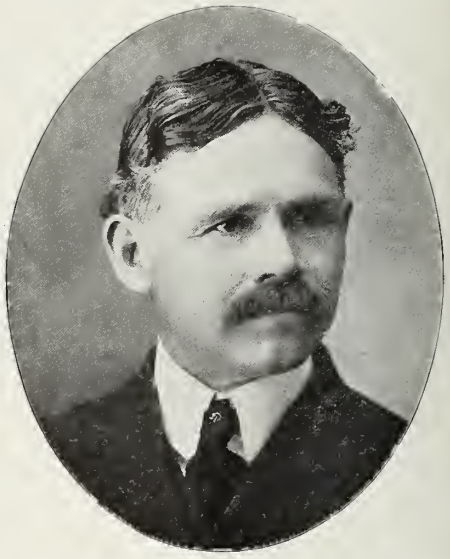
colonies, and the results of their efforts are showing good returns in many cases.

IMPORTATIONS OF APPLES AND PEARS INTO FRANCE

From	*1907 Bushels*	*1908 Bushels*
Germany	5,930	.....
Austria-Hungary	10,080	.....
Turkey	2 275	.....
United States	82,875	19,765
Canada	1,245	790
Other countries	2,340	695
Totals	103,740	21,250

I have been able to get very little information concerning the French markets,



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but from the above table you will observe that, so far as imported apples and pears are concerned, the market for foreign stock is not very great. My advices indicate that no pears are imported into France from the United States, and those that are imported are of two varieties, "Amorelle" and "Blanche."

Horticulture in France is a most prospering industry, and besides growing fruits for their own markets they are extensive exporters to various European

districts. In October, 1909, a Technical Board of Horticulture was created and attached to the Ministry of Agriculture. The purpose of the board is to promote horticultural development in France.

In the European markets, especially in pears and the more delicate fruits, France has a great advantage over the United States, and in arranging for marketing our fruits in this part of the world care should be taken to avoid such plantings for this trade as are likely to be ruinous against the French product. A special study should be made of the French productions in order to get a thorough understanding of this phase of the subject.

It is clear that any apple growing section, in order to make a permanent success, must establish and maintain a standard of fruit and pack that will fix its reputation high and substantial in the markets of the world. If this part of the business is left to commission men or brokers it will fail, because their interest is only for the season, and they have no investment in the reputation in which the grower's entire capital of orchard land and life's occupation is invested. The quality of his product, the grade of his pack, the method and system of placing his output in the market, which fixes reputation, makes his capital invested good or bad. These things are as much his business as the growing of the fruit.

Experience has proven that these features of the business can best be carried on by associations. The larger, stronger and better the association, the more the profit and the greater the value of the orchard investment. In order to be an important factor in the European markets, the shipping organizations of apple growers must be large and strong, financially and otherwise, and should control a million or more boxes of fruit.

A single ship from New York has just brought into Liverpool over thirty thousand bushels of apples, and this is only one of several ships clearing every week carrying fruit during the season. The

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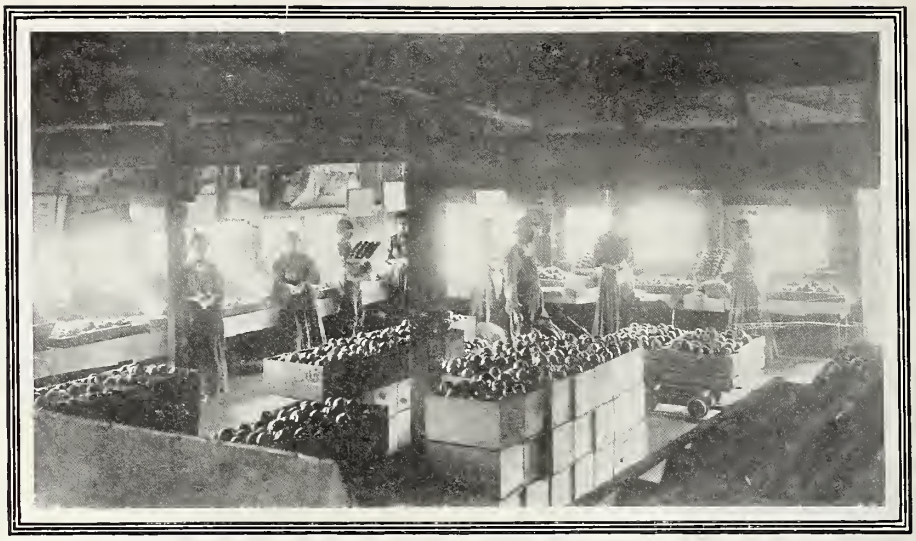
British markets consume between ten and twelve million dollars worth of imported apples each year, with an increasing tendency. Why should not the district that has the highest reputation in this market for its fruit increase to an enormous extent its exports? Oregon apples are the choice of all, and some capable organization that would take up the matter of making a careful study of the markets of Europe, and how to provide for them, would be able to add millions to the wealth and much to the happiness of the people of the entire Northwest Coast of the United States.

The Parliament of Ontario, Canada, a year ago passed an act providing for the grading, marking and inspection of apples, with penalty of a fine for falsely marked packages. This has had a good effect in improving the grading, and has brought better returns in cash. The formation of an association of Ontario fruit growers and the establishment of general packing houses, with uniform packing guaranteed by the association, has had a still better effect, and the association product brings the highest price in the market.

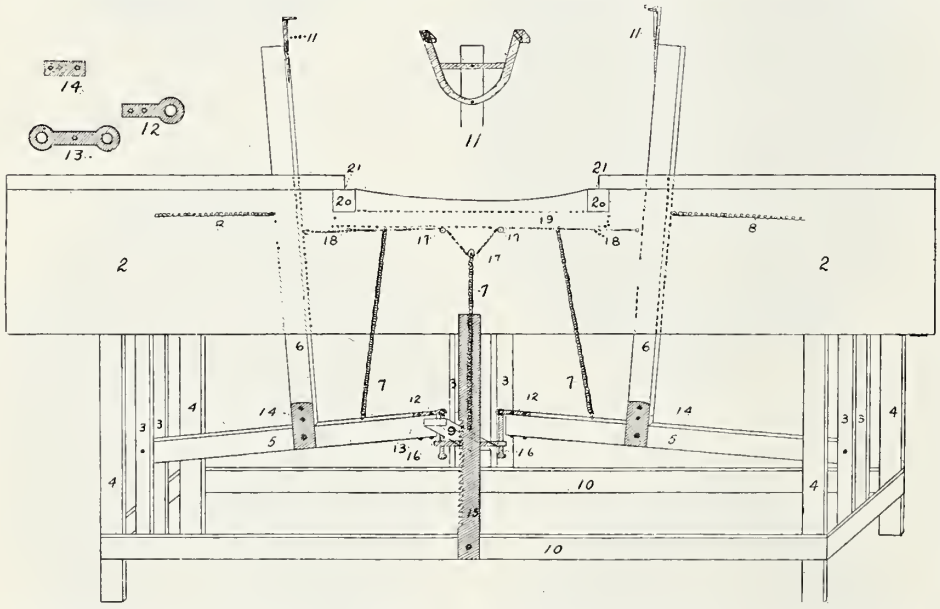
Already the Hood River association and the Rogue River associations in Medford and Grants Pass have their fruit in the markets here, and the dealers are much pleased with their products, brands and grading. These various local organizations should remain intact and form a general selling agency with supervisory powers over methods and quality of pack. The association method will be much better than a general law on the subject, and should be relied upon as the important thing in regulation of the business, rather than a state law.

Oregon apples now reach the markets of Europe through New York buyers, who must get a good commission; then they are usually auctioned at Liverpool and other places by an organization interested in depressing prices as much as possible, with the commission men buying at these auctions being the managers and manipulators of the auction. Neither of these factors have the interests of the growers or consumers at heart. There is a possibility of both being eliminated, or modified at any rate, to the benefit of both producer and consumer, if the marketing of the fruit is taken in hand as it should be by a concentrated effort of the various organizations of growers. It must be made the business of growers to form a system of marketing in these interests, with fair treatment to the consumer. To stop short of this endangers the whole business.



IN THE PACKING HOUSE OF M. O. LOWNSDALE, LAFAYETTE, OREGON

A PRACTICAL PRESS FOR NAILING APPLE BOXES



1. Cover boards to table, extending about half over cross pieces (20) on each side. Length of table, 64 inches.
2. Side board to table. The part between the cross pieces (20) is cut down to allow a box with bulged bottom to slide off the press.
3. Uprights for attachment of levers (5 and 9).
4. Legs of table, 28½ inches long, 1½ inches square. (All the arms, legs and levers of the press may be made of 1½x1½-inch stuff.)
5. Levers, 24 inches long.
6. Upright arms, 30 inches long.
7. Steel springs, ⅜ inch inside diameter. The two attached to the levers (5) are fastened at the upper end to spanner (19). The center spring is attached to the foot lever (9) and a pulley (17). All springs are shown relaxed.
8. Spring attached to upright arm (6) and support (3). These springs should be long and light, such as are often used on screen doors.
9. Foot lever, bolted to uprights (3) at back, and working with catch plate and ratchet in front. It is fastened to plate (13).
10. Brace for legs and lower support for uprights. Three inches from ground.
11. Horseshoe plate for gripping box cleats and cover. It is attached to arm (6) with flat-headed stove bolts, and must be made very true.
12. Iron plates bolted to levers (5), with large holes in projecting ends, allowing the bolts (16) to slide freely.
13. Lower plate under lever (9), to which it is bolted loosely, with large holes in each end for free play of bolts (16).
14. Side plate joining lever (5) and arm (6). Two bolts to arm, and one, fitted loosely, to lever.
15. Iron ratchet to engage plate on the front lever (9).
16. Half-inch bolts, 2½ inches long, working loosely in the holes in the plates (12 and 13).
17. Three small pulleys for rope attached to arms (6). Center pulley is attached to center spring (7). The other two pulleys are attached to spanner (19).
18. Strong ¼-inch cord that will not stretch. Runs across from arm to arm (6), passing through the three pulleys (17).
19. Spanner running parallel with side, back about 10 inches from front side and directly under center of box.
20. Cross pieces (end view), providing support for box. Attached to it is spanner (19).
21. Grooves for holding box in place. They are a trifle over 18 inches apart. To accommodate the special box, which is 20 inches long, strips may be nailed to the table top one inch back from the opening on either side.

The top of the table must have slots cut in it to allow working of arms. Tables may be of any width desired, but arms should be conveniently near the front.

THE BIG APPLE SHOWS

The following is a list of the big apple shows which will be held this year, and every one of these shows in all probability will be at least 10,000-carload displays. These shows are very educational and every apple grower, yes, every fruit grower, should make it a point to attend at least one of them, the one in which he is most interested, and if possible, more than one. The editor knows whereof he speaks, as he has been a regular attendant to the National Apple Show at Spokane every year, and he has learned more about the apple business from every point of view at these apple shows and the amount of information acquired at each apple show has been of inestimable value. Excursion rates will, in all probability, be made on all railroads.

The following is a list to date:

Montana Apple Show, Missoula, October 10 to 15; the California Apple Show, Watsonville, October 10 to 15; the National Apple Show, Spokane, Washington, November 14 to 19; the Canadian National Apple Show, Vancouver, British Columbia, October 31 to November 5; the Colorado National Apple Show, Denver, date not received; Donaldson Fruit Exposition, Minneapolis, Minnesota, October 31 to November 10; National Horticultural Congress, Council Bluffs, Iowa, November 10 to 17; Oregon Apple Show and Horticultural Society, Portland, Oregon, November.

All prize carloads and prize-winning exhibits of the National Apple Show, at Spokane, will be on exhibition at the Armory Building, at Chicago, November 28 to December 3.

The National Irrigation Congress at Chicago, date not received; National Irrigation Exposition, Pueblo, Colorado, September 26 to 30.

THE PACKING OF APPLES IN BARRELS AND BOXES

BY HON. J. A. RUDDICK, DEPARTMENT OF AGRICULTURE, CANADA

THE barrel in common use in Ontario is made of thirty-inch staves, that in use in Nova Scotia twenty-eight-inch staves. The dimensions are: Between heads, twenty-seven and a half inches; head diameter, seven-

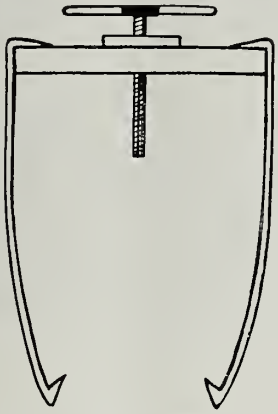


FIGURE 1—SCREW PRESS FRAME

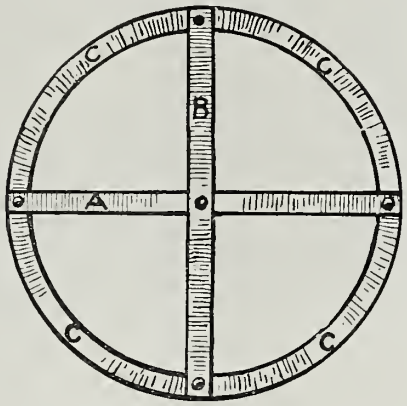


FIGURE 2—IRON CIRCLE PRESS HEAD

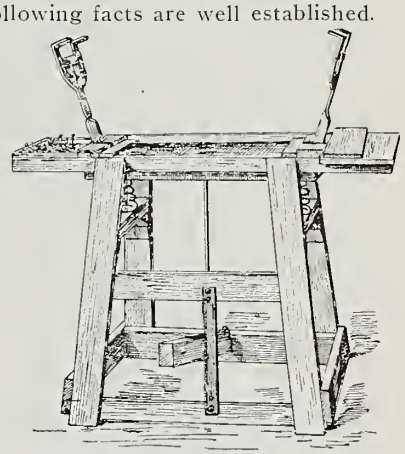


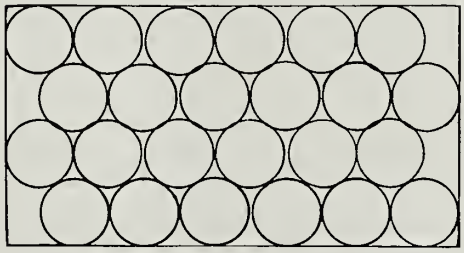
FIGURE 3—PACKING BENCH FOR BOX APPLES

teen inches; middle diameter, nineteen and a half inches. The specifications for a good apple barrel call for a sound stave, nine-sixteenths-inch jointing, cut five to two inches, and averaging four inches in width at the bilge. The head to be not less than one-half inch in thickness, dressed, and to have eight hoops.

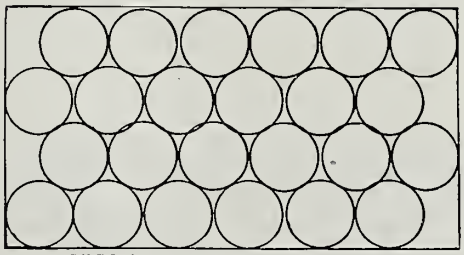
When packing the apples in barrels each apple is laid with the stem end down, the stem having been previously cut off with a stemmer. Upon no consideration should a very large or very small apple be used to finish up in the center of the face. If the apples are colored, the second layer should be placed so that the color of the apples will show through between the apples of the first layer. After this second layer is laid the apples may be turned in from the round-bottom baskets in which the graded apples have been placed. Never use any device that will require the apples to fall any distance into their place on the grading table or in the barrel. The presumption is that the grading has been done off the grading table, and that fruit of a perfectly uniform grade is put in each barrel.

Heads cut from heavy paper or light pulp board are very desirable on both ends of the barrel. The patent corrugated heads can not be recommended. It is doubtful, too, whether there is any advantage in using fancy paper heads.

The pressure will depend somewhat upon the variety. The Spy must be pressed very moderately; the Russets, on the contrary, will stand much heavier pressure. If packed for storage, the pressure need not be as heavy as when packed for export. Slackness in barrels is as often caused by over-pressing as by under-pressing. Over-pressing will break or bruise the skin, inducing decay.



FIRST AND THIRD LAYERS



SECOND AND FOURTH LAYERS

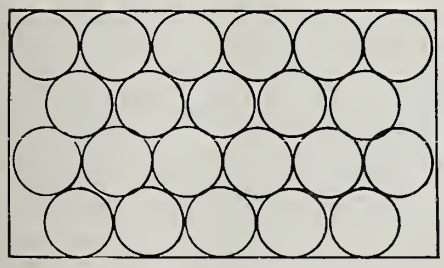
FIGURE 4—SHOWING DIAGONAL TWO-TWO PACK, FOUR LAYERS, NINETY-SIX APPLES

The most efficient and handy form of barrel press is the screw-press frame shown in Figure 1. To make the pressure equal, an iron circle press-head is used, as shown in Figure 2. The bars A and B are made with an arch and with a shoulder to fit against the iron circle, C. The circle should be fourteen inches in diameter and made of quarter-inch bar iron.

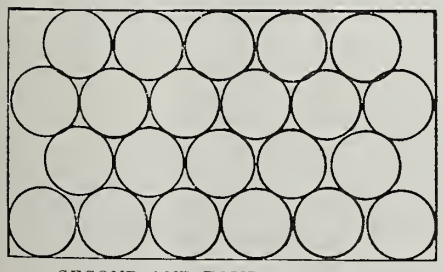
The question of boxes versus barrels has been discussed in Eastern Canada for a number of years. The British Columbia fruit growers use no barrels. A careful analysis of the conditions in Eastern Canada would seem to show that neither package possesses all the virtues. The following facts are well established.

1. The highest priced apples are shipped in boxes.
2. The box is the only practical package in which an apple can be transported with any reasonable degree of economy in a fit condition for the highest dessert trade.
3. Only the best grade of apples will pay in boxes.

For the last four or five years a few Canadian shippers have each year experimented with boxes. In only one or two cases have they pronounced it a success. A fairly close inquiry into the conditoins under which these experiments were carried on shows that the business was not handled in the best way. Nearly all who experimented with boxes did so with unskilled packers. In many cases the boxes were faced and then the apples were simply rolled in on top of this face, after the manner of barrel packing, and finished in every respect like barrel

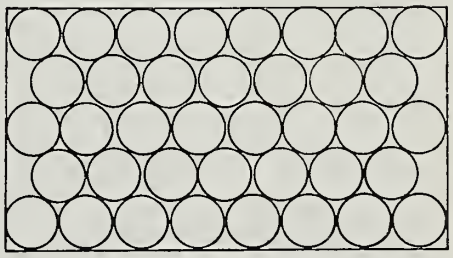


FIRST AND THIRD LAYERS

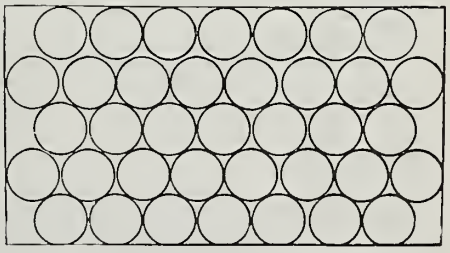


SECOND AND FOURTH LAYERS

FIGURE 5—DIAGONAL TWO-TWO PACK, FOUR LAYERS, EIGHTY-EIGHT APPLES



FIRST, THIRD AND FIFTH LAYERS



SECOND AND FOURTH LAYERS

FIGURE 6—SHOWING A THREE-TWO PACK, FOUR AND A HALF TIERS, FIVE LAYERS, 188 APPLES. IF LAYERS ARE REVERSED THERE WILL BE 187 APPLES

packing, with no attempt at arranging the apples in tiers. Of course, nothing but failure could be expected from such a style of packing.

The size of the Canadian apple box is 10x11x20 inches, inside measurement. This is obligatory for the export trade. It is recommended that the box should be made with the following specifications: The end pieces not less than five-eighths inch nor more than three-fourths inch thick; the sides not less than three-eighths inch, the top and bottom one-fourth inch thick. These dimensions can not be changed to any great extent. Dove-tailed boxes are not a success with fruit.

Whether the apples should be wrapped or not depends somewhat upon the variety and the grade of fruit. Wrapping has several advantages: (1) it serves as a cushion in the case of delicate fruit; (2) it prevents rot and fungus diseases from spreading from specimen to specimen; (3) it maintains a more even temperature in the fruit, and (4) it has a somewhat more finished appearance when exposed for sale.

Wrapping has also some disadvantages: (1) it adds to the cost of packing, and (2) it prevents rapid cooling in cases where the fruit is not cooled at the time of packing.

Lining papers for the boxes are not often used. At the Ontario Horticultural Exhibition not more than 25 per cent of the boxes shown for prizes were lined. The practice, however, is to be commended. It costs but a trifle and adds greatly to the appearance.

When packing apples in boxes, packing tables are absolutely essential. These should be of two sorts, as it is impossible to get packing and grading done at the same table economically. When the apples are brought to the packing house the first operation is grading them into fancy, No. 1, No. 2 and culls, which may be done by help that knows nothing about the practical part of box packing.

BOX APPLES FROM WENATCHEE VALLEY FRUIT GROWERS' ASSOCIATION ON SALE IN ENGLAND

The grading is best done on tables lined with canvas or burlap.

The basis of rapid box packing is good, even grading. The packer should have

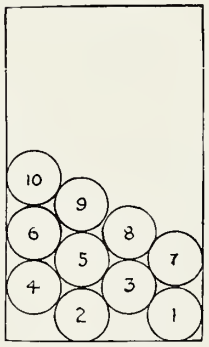


FIGURE 7—HOW TO START A 2-2 DIAGONAL PACK

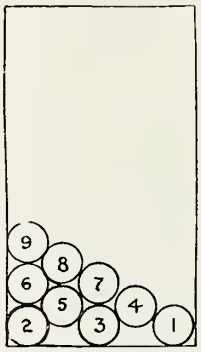


FIGURE 8—HOW TO START A 3-2 DIAGONAL PACK

before him an even run in point of size, without which it will be impossible for him to do rapid work, or, indeed, do good work. The really skillful packer will take the very slightly smaller apples and use these at the ends of the boxes, the larger always going toward the middle of the box. But this difference in the size of the end and the middle apples is so slight that only the practiced eye of the packer would detect it. The skillful packer will also take advantage of the slight inequalities in shape. If the packer finds that there is a slight slackness in a row of apples which he is packing across the box, he can usually make this perfectly tight by simply turning the specimens one way or the other. Of course, the opposite fault of being somewhat too crowded can be remedied by the same process. It is, perhaps, equally important to grade to color; this adds greatly to the appearance of the finished box. If, then, the packer has the choice, he will put the lighter-colored apples in one box and the highly-colored apples in another. Both boxes may sell equally well, but neither would have sold so well had the apples been mixed in color in each box.

After the packing is completed the cover of the box must be carefully nailed in position. The lining papers are folded neatly at the edge of the top of the box, to allow for the swell, and will then overlap slightly at the center. The staff of the Fruit Division of Canada have been using a bench, illustrated in Figure 3. This is the style, with some modifications, in general use on the Pacific Coast, and can readily be made by any one handy with tools. The box is set between, and is held firmly by the clamps shown.

Packing in Tiers—The simplest method of packing boxes is nothing more than the barrel pack practiced with boxes. It is needless to say that such a method of packing a box will result in absolute failure. The number of apples in a box can be determined almost instantly by the style of pack, of which there may be a large variety. Some practiced packers claim to distinguish as many as sixty different styles of pack. Familiarity with half a dozen, however, will enable an intelligent person to pack successfully

PRIZE-WINNING CAR FROM THE GREAT YAKIMA VALLEY
On sale at Covent Garden, London, England. A typical fruit auction scene

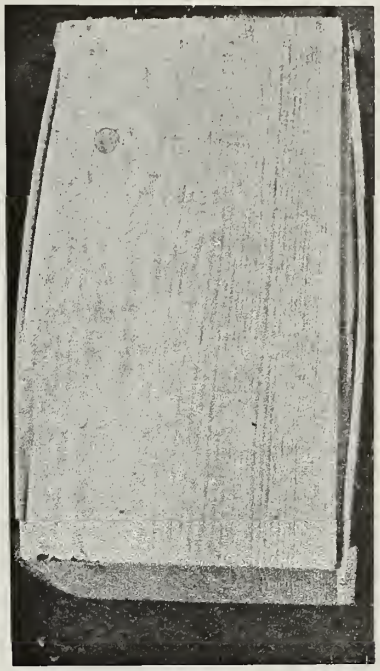
all common varieties. In a general way the size of the apples is indicated by the number of tiers or layers in the box. The box is supposed to be open so that it is eleven inches wide and ten inches deep. If, then, three layers or tiers of apples will fill the box properly, that sized apple is spoken of as a three-tier apple. In the same way, if five layers or tiers fill the box, the size is said to be a five-tier. The three-tier apples would be the largest that would be packed, such as the Alexander or overgrown specimens of the King and Spy. These may be so large that only forty-five will go in a box. It is possible to get a three-tier apple with sixty-three in a box. In the same way, a four-tier apple usually contains ninety-six specimens, but it may contain as high as 112.

If the apples of one layer are placed in the spaces between the apples of the one below, there would be, say, four layers of apples intermediate in size between those that would fill the box in three layers or in four layers if packed directly over each other, or straight pack. Such intermediate size would be styled a three and a half-tier size. Similarly, the intermediate size between a straight four-tier and a straight five-tier would be spoken of as a four and a half-tier. From the smallest Fameuse that should be packed, to the largest Kings or Alexanders, there are between thirty-five and forty different sizes, each of which requires a different style of pack. These different styles of packing are really only modifications of two general types. The first is called the "straight" pack, where every apple but those in the first layer is directly over another. The second is called the "diagonal" pack, in which no apple is directly over any other which it touches. Usually the apples in the alternate layers are directly over each other, but never in the contiguous layers.

Both straight and diagonal packs may be modified in a number of ways. A modification of the diagonal pack in common use is called the "offset." Place three apples touching each other, but leaving a space about the width of half an apple between one side of the box and the last apple. The next row of three would be placed so as to leave the space on the opposite side. A very useful diagonal pack is made by placing three apples in the first row, one in each corner and one in the middle. The second would then be made with two apples, the third with three, and so on, until the tier is completed. The second layer would be commenced with two apples and alternated with three, as in the first layer. The first and third and fifth layers, and second and fourth would be the same, and directly over each other. By commencing this pack with two apples, instead of three, the box will contain two apples less. With larger apples, the two-two pack is used. This is begun by placing an apple in one corner of the box and then dividing the remaining space evenly with another apple. Into these spaces are pressed two apples forming the next row. This is continued until the box is filled. Four layers will fill the box, the first being directly over the third, and the second over the fourth.

The art of packing can only be learned by packing. It requires a deft hand and a trained eye, so that slight differences may be recognized and utilized to fill the box and so tightly packed that the box may be put on end with the lid off and yet no apples fall out.

The "Swell" in Box Packing—Eastern packers have been so long accustomed to the barrel, a rigid package, that it is difficult for them to conceive that the essential difference between box packing and barrel packing lies in the fact that the box is an elastic package. The secret of rapid and good packing is largely in a recognition of the elasticity of the top and bottom, and, to a very slight extent, of the sides of the box. It is understood, of course, that the box remains always the same dimensions, but the apples to be packed are constantly varying in size, and yet the experienced packer has no difficulty in securing an arrangement of the tiers, so that after a certain number of tiers are placed in the box, the box is properly filled without the aid of any extraneous packing material, such as paper, shavings, excelsior or pulp pads.



SHOWING THE BULGE A COMMERCIALLY PACKED BOX OF APPLES SHOULD HAVE AFTER THE LID IS NAILED ON

Nevertheless, even the most skillful packer requires for the best packing slight difference in the size and shape of the individual apples, differences so slight that they would escape the attention of all but the practiced eye. Small as the differences may be between the specimens of any particular package, this difference in size and shape is very important, and is taken advantage of by the packer to secure the swell in the center of the top and bottom.

This swell serves two purposes. It enables the packer to find a place for the apples slightly larger or smaller than the main run in one or both diameters. There is a careful grading as to size by the eye, so that the smaller specimens are placed at both ends on each tier and the slightly larger ones toward the center. This must be done by selecting the proper shaped fruit, because it is not desirable to break the plan of any particular tier; that is, if the packing is begun with the apple stems down, it is desirable that the whole tier should be packed stems down. In that case the flatter apples would be placed near the ends of the box, while the apples that were equal in transverse diameter, but not longer than the axis, would be placed toward the middle. Where this is done consistently, it will be found that when the box is packed ready for covering, the apples at the ends of the box project half an inch or more above the box, while at the middle they would rise about an inch and a half above the sides of the box. This selection and placing of the apples becomes, in the skillful packer, automatic, and he scarcely feels that he is making the selection, so rapidly is it done. Yet if a selection of this sort is not made, there is no possibility of securing a box that will not go slack.

EXHIBIT SHOWING COMMERCIAL PACK OF APPLES AT THE MEETING OF THE NORTHWEST FRUIT GROWERS' ASSOCIATION, VANCOUVER, B. C.
The Canadian National Apple Show will be held here October 31 to November 5, 1910

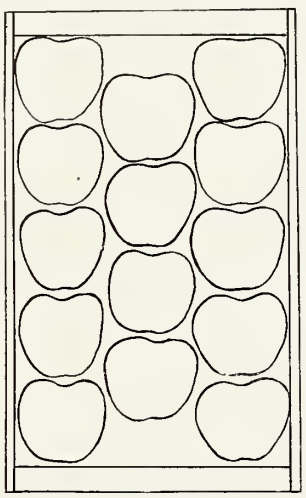
THE SCIENCE OF GRADING AND PACKING APPLES

BY RAY C. BROCK, HOOD RIVER, OREGON

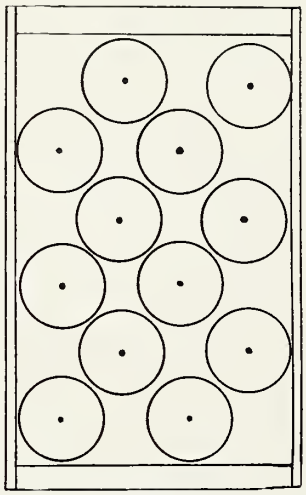
GRADING for both quality and size is so closely related to the packing of apples that it seems almost necessary to deal shortly with it. Grading should begin with the picking of the fruit from the trees. Pickers, after having taken the fruit from the trees into pails, bags or other receptacles, should be required to empty them into the apple boxes, which are to be taken to the places for storing, not by pouring, but by hand, and then as though each fruit was an egg. During this transfer the picker should look for fruits badly blemished, and place either in boxes or in piles under the shaded side of the trees, in order that they may be gathered and so disposed of as each grower's conditions will permit. The fruit so assorted may then be stored in the place for receiving them, and left until such time as the owner is desirous of packing, at which time the fruit should be carefully assorted in readiness for the packers. Of course, the appliances used will largely govern the further direct plan of procedure. However, the writer, after carefully investigating the plans used in Wenatchee, Yakima, Southern Idaho and Hood River, believes the most convenient plan for handling, and the one that brings the best results as to saving of time, expense, labor, and from general confusion, is the proper establishment of appliances as follows. (This refers to the handling of the average crop of from 2,000 to 20,000 boxes of apples; either greater or smaller crops may require different plan of procedure):

In building a storing house with packing compartment thereto, the opening between the storing room and packing shed should be made in the center of the side of the storing room, and not in the end of the building. By using the proper and most complete packing table all the materials needed in packing may be readily at hand and save considerable loss of the packer's time in waiting to be supplied with same. Figure 1 shows a model arrangement of storing and packing house combined with the necessary packing tables, nailing press and storing room for apples packed and ready for loading. The reader will note that the tables are equipped with proper and handy places for lining paper, layer board, wrapping paper, and that it is so arranged that the packer may have three different sizes before him at one time. For instance, while packer No. 1 is packing, say, 72, 112 and 128, packer No. 2 may utilize the three probable other sizes that No. 1 cannot then use—80, 88 and 96. As packer No. 1 completes one of his numbers he has but to notice the size about completed by No. 2, and if the contents of the tables used by No. 1 and No. 2 show a sufficient quantity of the sized apples used by No. 2 in completing his nearly finished box, No. 1 may then commence a box of the same size, and likewise each other packer. In this way all the sizes may be kept cleaned from the tables and a packing of the different sizes distributed to each packer in proper turn. Of course, the most important feature of a successful packing crew is a perfect system. A complete system cannot be brought about by proper fixtures alone. In fact, some very inconvenient packing sheds have, with careful thought of the foremen, brought out a system seemingly impossible to attain.

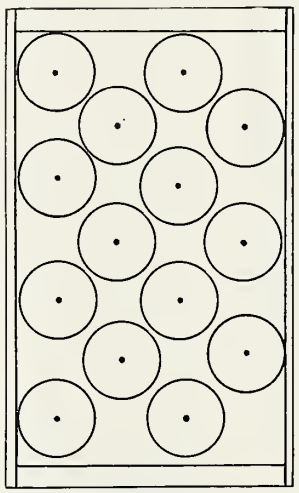
Packing is the classification of fruits into their proper sizes, by placing the



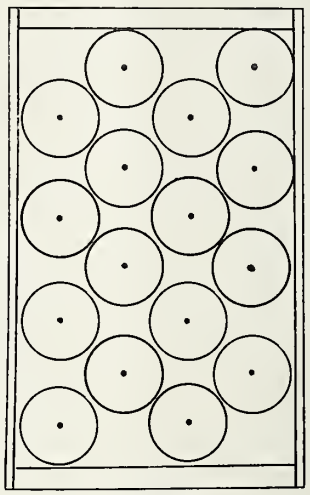
41 APPLES
NORTHWEST STANDARD BOX



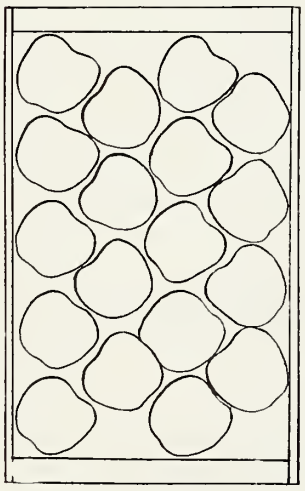
48 APPLES
NORTHWEST STANDARD BOX



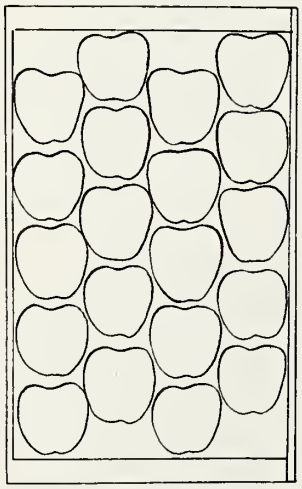
56 APPLES
NORTHWEST STANDARD BOX



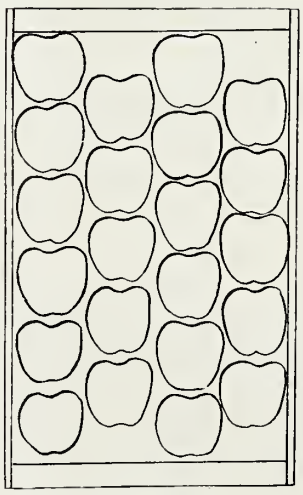
64 APPLES
NORTHWEST STANDARD BOX



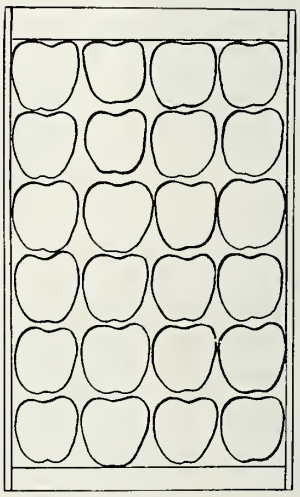
72 APPLES
NORTHWEST STANDARD BOX



80 APPLES
NORTHWEST STANDARD BOX



88 APPLES
NORTHWEST STANDARD BOX



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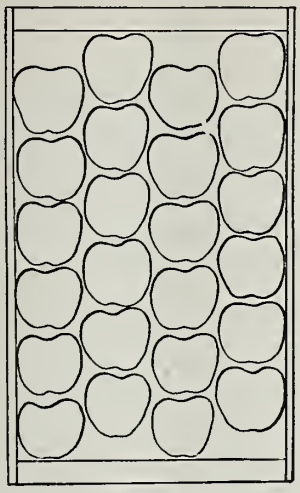

96 APPLES
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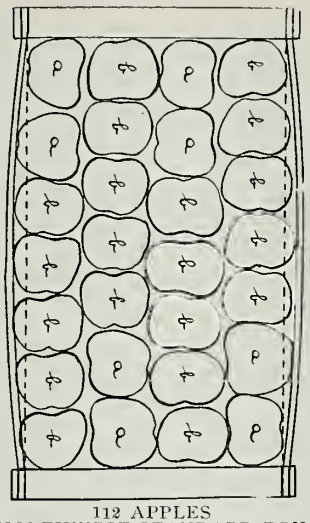
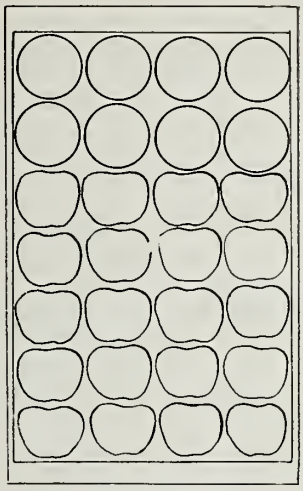
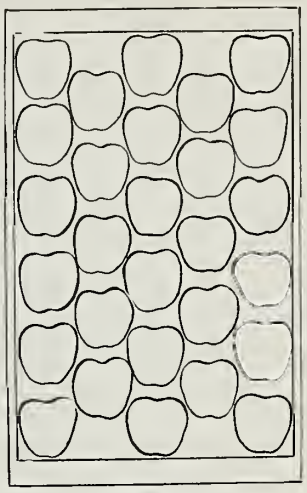


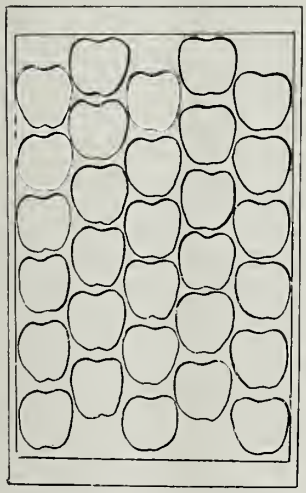
112 APPLES
NORTHWEST STANDARD BOX



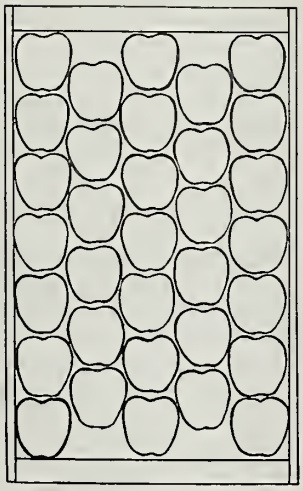
112 APPLES
NORTHWEST STANDARD BOX



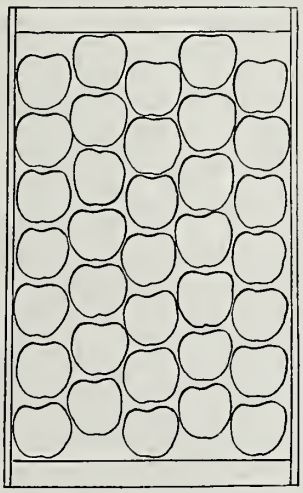
138 APPLES
NORTHWEST STANDARD BOX



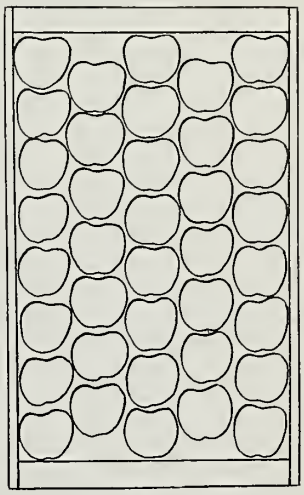
150 APPLES
NORTHWEST STANDARD BOX



165 APPLES
NORTHWEST STANDARD BOX



175 APPLES
NORTHWEST STANDARD BOX



190 APPLES
NORTHWEST STANDARD BOX

fruits of the same size solidly into boxes, in such a manner as to insure uniformity of appearance, neatness and protection from bruising. The purpose of careful packing is to make the box of fruit attractive as possible, and thereby receive the highest possible price for it.

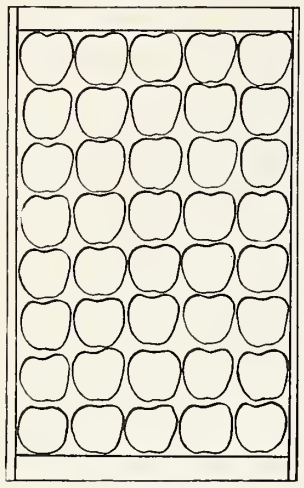
There have been a number of different systems of packing in boxes followed on the Pacific Coast for a number of years, and this was brought about in an endeavor to adapt the size and shape of the fruit to the size and shape of the box used in that particular locality from which the different systems originated. After a number of years' experiment, nearly all of the sections found it impossible to suit the size and shape of the fruit to the box, so have re-arranged their ideas, and are now suiting the size and shape of the box to the size and shape of the fruit, and have reduced the systems practically to one, and in such a way that every size or shape of apple grown may be neatly and solidly packed by the use of two boxes, i. e., the Northwest Standard (10½x11½x18, inside measurement, containing 2,176 cubic inches, without bulge), and the Northwest Special (10x11x20, inside measurements, containing 2,200 cubic inches, without bulge).

At this point I wish to warn the purchaser of boxes against improperly made boxes, for there is nothing so distasteful to the trade as a poorly manufactured box. Do not buy apple boxes with heads less than three-fourths inch in thickness. Do not buy boxes with sides less than three-eighths inch in thickness. Do not buy boxes with top and bottom board thicker than one-fourth inch, for these must be thin and springy. Do not buy boxes, unless the top consists of two pieces and the bottom of two pieces, with two cleats each for top and bottom. Do not use sides made of two pieces, even though tongued and grooved, for they are much weaker than single-piece material of the same thickness, and when a box is tightly packed will bulge, and as apple boxes should always be handled on the sides, when so handled, will undoubtedly damage the fruit. This is also the reason for insisting on full three-eighths-inch thickness in these pieces.

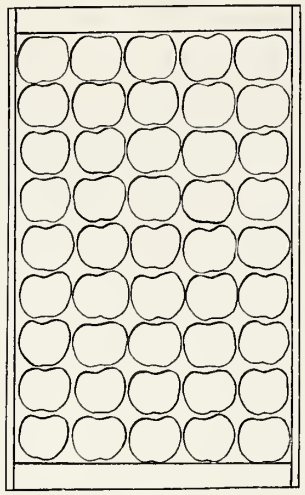
Returning to topic just left, both these boxes, Northwest Standard and Northwest Special, should, when packed, have a swell in the center of the box on both top and bottom of about three-fourths of an inch on each side. The manner of bringing this about will be dealt with later in this article, and thereby adds to the cubic contents of the box.

The size of the apple is invariably determined by the diameter of the apple from cheek to cheek at the widest point, never from stem to blossom, hence the reason why an apple should never be placed stem or blossom-end toward the sides of the box. Hardly an apple is absolutely circular in shape at its greatest cheek circumference, and it is here that the packer may take advantage of this irregularity in packing Den Davis apples, one of the most difficult of apples to pack, for the reason that they are about the same distance from stem to blossom as from cheek to cheek, and will not, when turned, have brought about the results usually attained by turning in this manner. However, as before stated, if the packer will carefully save for the end of the boxes those in even a slight degree irregular, and place at the ends so as to keep the apples lowest where they will not prove too high, and by the use of the more nearly circular ones through the center, a beautiful crown may be brought about.

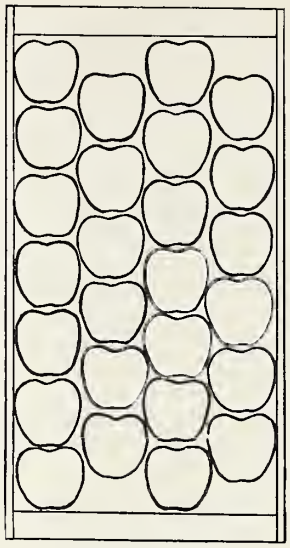
The diagonal system as used in the Northwest Standard and Northwest Special boxes, is made up of the following sizes: 41, 48, 56, 64, 72, 80, 88, 96,



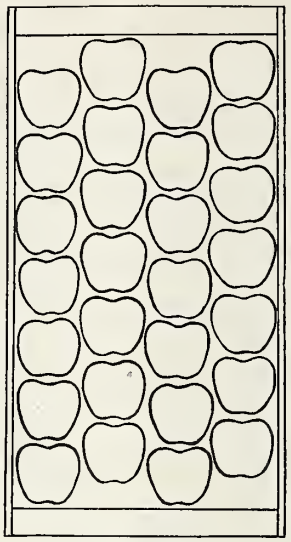
200 APPLES
NORTHWEST STANDARD BOX



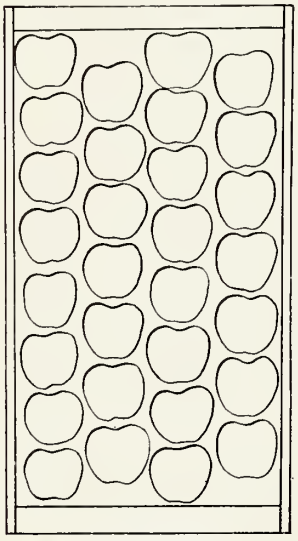
225 APPLES
NORTHWEST STANDARD BOX



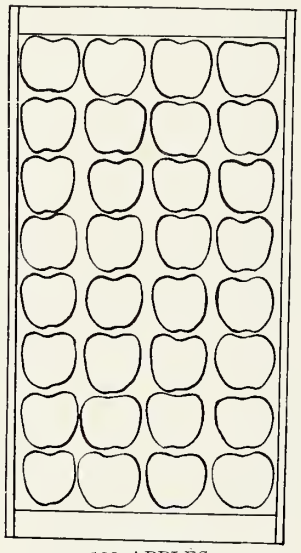
104 APPLES
NORTHWEST SPECIAL BOX



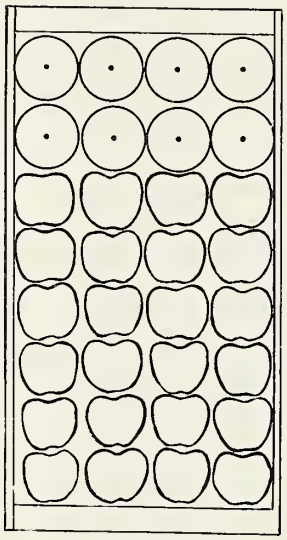
112 APPLES
NORTHWEST SPECIAL BOX



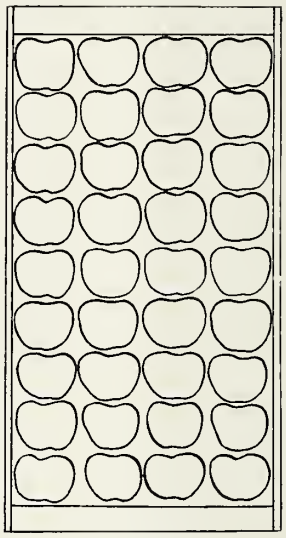
120 APPLES
NORTHWEST SPECIAL BOX



128 APPLES
NORTHWEST SPECIAL BOX



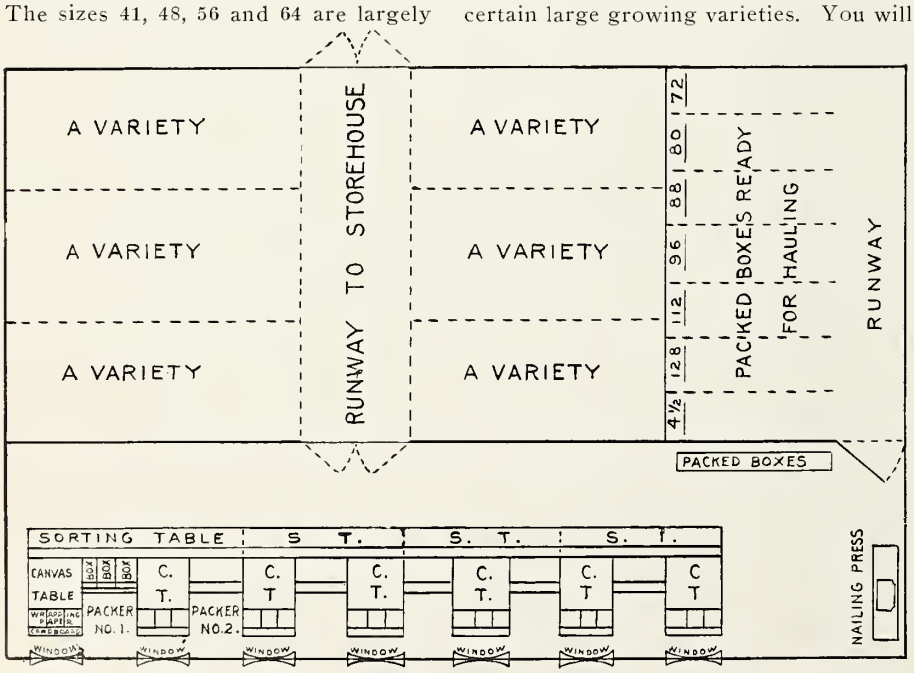
128 APPLES
NORTHWEST SPECIAL BOX



144 APPLES
NORTHWEST SPECIAL BOX

104, 112, 120, 128, 144, 138, 150, 165, 175, 190, 200 and 225.

The sizes 41, 48, 56 and 64 are largely used for exhibition purposes, although a few boxes of these sizes are packed of certain large growing varieties. You will notice that most of the packs are what is known as the two-two. In packing any one of these, start by placing one apple in the lower left-hand corner and the other in the center of the space left from the cheek of the apple placed in the corner to the opposite side of the box. This will leave a space on each side of the apple last placed of equal width. Settle firmly back into the spaces then left two more apples in exactly the same relative position on the other side of the box. Continue this until the opposite end of the box is reached, where there will be a space which, by a firm pressure downward and toward the packer, will enlarge the space sufficiently to permit of the last two apples being fitted snugly into place and at the same time take all of the extra slack out of the layer. Begin the second layer by placing the first two apples into the two little pockets formed by the spaces and the first four apples in the first layer, and continue to the end of the box as in the first layer, ending up with last two apples in the pockets similar to those at the beginning of the second layer. Continue to build up the third and fourth layers



the same way as the first and second, always placing the apple in the pockets formed and never directly over the cheek of the apple below (except, of course, where necessary in the straight 4-tier pack, which is as little used as possible as it is very likely to bruise the fruit and create a blemish).

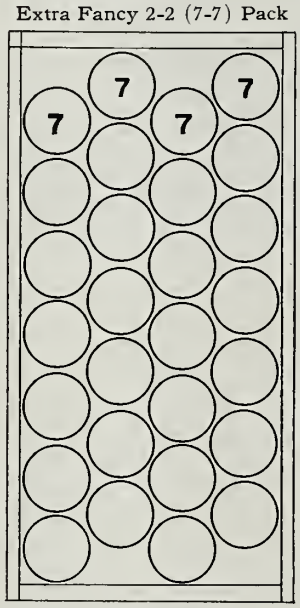
Often times, in order to keep the two-two pack from coming too high at the ends of the box on sizes ranging from 41 to 72, inclusive, particularly on the larger of these sizes, it is necessary, because of the length of the apple, to turn all the layers of the box so that the apples are either stem or blossom toward the top or bottom. Where apples are like the Wagoner, or some of the other flat varieties, it sometimes becomes necessary to turn a row or two at one end of each layer in order not only to lower the ends, but to fill up in length the space yet left, alternating so that the rows turned with the stem or blossom toward the top or bottom of the box will be on layers Nos. 1 and 3, on the end of the layer farthest from the packer, and Nos. 2 and 4 on the end nearest the packer. The reason for turning in this way is that, until one layer is almost completed, it is hardly possible to know how many rows must be turned in each layer. This can be determined as the end of the first layer is reached, and the same number turned in each succeeding layer as above stated, first at one end and then the other. The reason for alternating the turning of the apples on each layer is that, should the nearest rows on each layer and the farthest be turned, and the rest on edge, it would make the ends too low and the change from turned apples to those cheeked abrupt and unsightly, besides allowing the cover to rest only against the cheeked apples, and allow an opportunity for the flat ones to become loose in the box. No definite rule can be given for turning of apples in this way, other than may be determined by trial of each variety. Should more than two rows be required to be turned, it would either indicate that the packer was not making the rows fit snugly across the box or that the variety was decidedly flat and should be packed entirely on edge. This, of course, does not apply to cases where all the apples are turned flat. Never turn an apple stem or blossom directly toward the side of the box. Often apples are partially turned in order to form pockets for the next ones, but this is not directly to the side, and is permissable. Never pack apples on cheek at the end rows of the layer and flat in the middle of the layer. This will cause the ends to be high and the centers low.

Ordinarily, exhibitors endeavor to find proper shapes of apples to do away with turning flat, in order to make a uniform display of the cheeks. But commercially, this is unnecessary, as the apples are entirely wrapped, and when inspected by prospective purchasers are taken usually from the sides of the box where all layers may be reached, and only a single apple at a time inspected and replaced. In this way, no lack of uniformity of position is displayed. The straight 4-tier packs, 96, 112, 128 and 144, are to be avoided as much as possible for reasons as before mentioned. However, it is almost impossible to pack a crop of any size without using these packs. When they must be used, be very careful to follow the outline just given as to turning the apples flat, and never allow the four apples in each row to be loose from side to side of the box. This does not mean that they should be forced in so tight as to bulge the sides, but just tight enough that there will not be a space the thickness of a sheet of paper between them. I wish to state right here that the writer has had the teaching of many beginners in packing, and has found beginners have more trouble resulting from this one thing than from all others combined. Make the apples fit snug across the box. The next greatest fault is in keeping the size of all the apples the same in each box. Mr. Packer, if you do not have the size of apple on the table that you are packing in the box, either wait for more of the proper size or start the size you have on the table in another box. You will no doubt have trouble sizing them at first, but after a couple of weeks' steady and conscientious sizing you will find you feel almost like a veteran at it, and will wonder why it was ever hard.

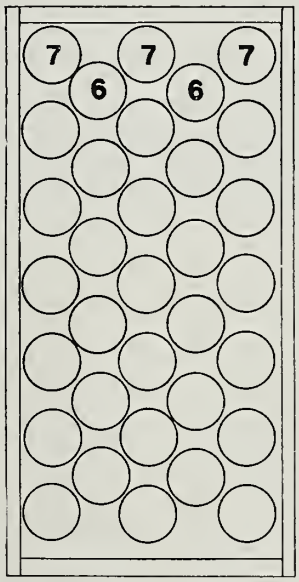
Among other points for the beginner, or the improperly taught, to remember is never to load the packing table with several boxes of apples at the same time. The more apples and the more sizes from which to choose the apple needed, adds to the difficulty of choice, and this ordinarily will hold good for the packer of

"THE ASHLAND PEACH PACK"

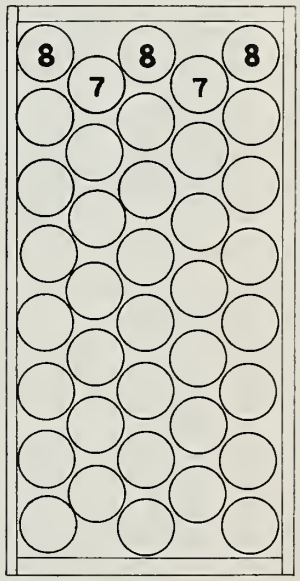
56
Extra Fancy 2-2 (7-7) Pack



65
Extra Fancy 3-2 (7-6) Pack

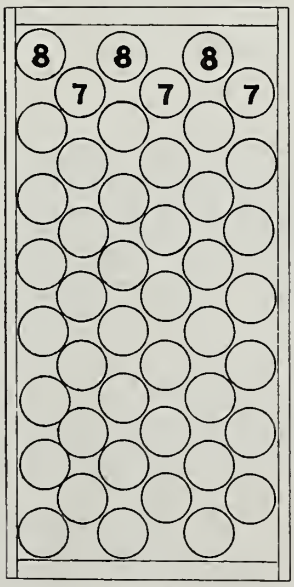


75
Fancy 3-2 (8-7) Pack



All Peaches must be sound, free from blemish or fungus and well matured

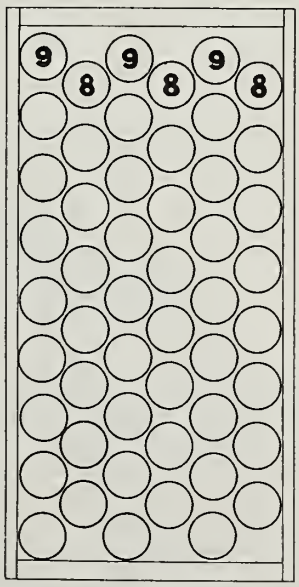
90
Choice 3-3 (8-7) Pack



PACK MUST BE TIGHT

Grower's Name and Grade on Each Box

102
3-3 (9-8) Pack



PACK MUST BE UP TO BUT NOT ABOVE END OF BOX

Compliments Ashland Fruit and Produce Association, Ashland, Oregon
T. F. SMITH, Inspector

A. B. F.

long experience, for you will very often find him rolling over a heap of apples trying to find the ones wanted, when he has, right on the top before him, just the one wanted. Rolling and handling in this manner is injurious to the fruit.

When the larger sizes have been packed, and it becomes necessary to pack those commonly known as the 4½-tier, the pack is started with three apples across the end of the box, one in each of the corners nearest the packer and one in the middle. Then place an apple in each of the two pockets thus formed, and then three in the pockets next formed, until the end of the layer is finished. This layer may end three across or two across, as the case may be, determined by the size of the apple used. However, the next layer will start with two apples placed in the pockets formed by the first five apples and space. Continue this until the box is completed. It is found on most varieties that 138 and 150 are best packed flat through the entire box, always as in the large sizes of the two-two, using those shortest for the rows next to the end of the box and the longer through the centers. The 165 and 175 usually pack with part of the rows flat toward the ends, and centers on edge. These packs are all known as the three-two.

The 200 and 225 are the straight pack of 5-tier, and the same general plan will apply as is used in the 112 and 128 where packed a straight 4-tier pack.

You will note by the following summary, in which sizes are given and the boxes in which they are to be packed, also classified in tiers, that the purchaser would, upon reading the number of apples marked upon the box, immediately know the tier, but should the tier only be marked he would in each case have four guesses coming. The tier of boxes is entirely unnecessary, except possibly where the dealer might wish to cover up the fact that a 3½-tier was a larger apple than the purchaser had desired, or where a 4½-tier may be smaller than supposed. This practice can only hurt the grower in the long run, and my advice is to use the number of apples in the box rather than the tier.

Northwest Standard Box—3-tier, 41, 48, 56, 64; 3½-tier, 72, 80, 88, 96; 4-tier, 112; 4½-tier, 138, 150, 165; 5-tier, 175, 190, 200, 225. Northwest Special Box—4-tier, 104, 112, 120, 128; 4½-tier, 144.

Should paper for lining, layer boards and wrapping be used, care should be taken to have all as neat as possible. First line your box by taking two sheets of lining paper in one hand and holding at the ends with both, then place the left hand into the box in such a manner as to let the end of the paper extend over the crack in the center of the box about one and a half inches, then carefully crease in the bottom crack at the bottom of the side; then crease down over the top of the side board. Then remove one of the sheets and by fitting the crease made by the top of the one side board to the top of the other side board, you will have a neatly creased paper with exactly the same lap on top and bottom. Then put in a layer board and commence with packing. In taking the wrapping paper, use a rubber finger stole, which may be secured at any drug store, hold the palm of the hand downward and picking up the sheet of paper with the thumb and forefinger, but not turning the hand over as seems most natural, hold in the same position as at the time of taking the paper, and then place the fruit held in the other hand into the paper against the palm of the other, then the same hand to smooth the paper to fit the apple, giving a little twist to hold the wrapper in place. Then place the apple in the box with the ragged ends upward for two layers, and downward for the remaining layers.

P. A. SUMMERLAND
General Manager Vera Land Company
Spokane, Washington

(Editor's Note—The writer of the above article is a man of practical experience—a son-in-law of the late and well-known pioneer orchardist, D. H. Sears, and practically grew up in the orchard of Sears and Porter, located at Hood River, Oregon. He has also had experience in associations, having been manager of the Yakima Valley Fruit Produce Exchange and the Kootenai Fruit Growers Association. At the present time, his large interest in the D. H. Sears Orchard Company require all of his time. This tract is located at Little White Salmon Valley, consisting of 2,700 acres, which is rapidly being prepared to set to orchard, of which a portion is to be sold in small tracts. The address of D. H. Sears Orchard Company is Hood River, Oregon.)

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MANY years ago, when the people of Spokane first realized that in the Spokane Valley they had soil that was highly productive and would produce luscious fruits, they became joyous and could not rest easy until they told the world about the wonderful productivity of their soil and the abundant supply of water available. The news was disseminated quickly through the leading newspapers and magazines of the country, until now the Spokane Valley is recognized as one of the world's great fruit producing centers. Perhaps one of the most modern and most scientifically developed orchard districts in the Spokane Valley is that known as Vera, which is located about five and one-half miles from the City of Spokane. When it was first decided to place the fruit land at Vera on the market, it was the determination of the owners and promoters to have a fruit district where every conceivable modern convenience would be afforded those who purchased the land and built their homes. That they have accomplished their purpose is obvious. At Vera can be seen hundreds of happy and contented fruit growers living in luxury and at ease, not only because the soil is of such a character as will produce high grade apples, pears, peaches, prunes, and all the best varieties of small fruits and vegetables, but because of the splendid combination of advantages offered, among them being an electric railway through the property, an abundant supply of water for irrigation purposes and domestic use, together with churches and schools, stores and the kind neighbors who make life worth living.

The Vera Land Company, of Spokane, of which Mr. P. A. Summerland is general manager, own the property and have devised the scheme of selling the land at a very low price direct to the homeseekers. In this way the land can be obtained at a very low price, and on the payment plan one can secure five, ten or twenty acres and the land can be made to pay for itself in a comparatively short time. Great credit is due Mr. Summerland for his efforts in making Vera what is known today as the best irrigated orchard project in the Spokane Valley. He is truly an empire builder, the type of man who is strong in character and forceful in the execution of his plans, which are, in brief, to give the homeseeker or investor the greatest amount of productive land, with perpetual water right and the necessary facilities and advantages, at the lowest possible price, and on terms agreeable to the homeseeker, so that the homeseeker's investment will pay good returns. "The natural growth of Spokane, the richest and wealthiest city in the Inland Empire," said Mr. Summerland, "will in the course of a few short years inevitably make the land at Vera worth twice the price the owners are selling it for now. I want to impress upon you the fact that you should be thoughtful and realize what it means to own a tract of fruit land close to a city where has been built during the past year skyscrapers that would do credit to many old cosmopolitan Eastern cities. The time is not far distant when Spokane will be extended to Vera and this wonderful fruit district be embraced within its corporate limits. What would this mean? Why, it would simply mean wealth and riches for those who take advantage of the splendid opportunity now offered to get land at Vera at its present low prices." P. A. Summerland, whose main office is at 326 First Avenue, Spokane, will be glad to answer any questions from homeseekers or investors who are interested in fruit land in the Spokane Valley.

HOME OF PROSPEROUS FRUIT GROWER, VERA, SPOKANE VALLEY, WASHINGTON

THE WATSONVILLE APPLE ANNUAL A GOOD SHOW

BY. R. G. EINFALT

THE Apple Annual is an industrial apple show, conceived and promoted by the Commercial League of Watsonville and the Pajaro Valley, California, for several purposes:

First, it is believed that by inviting competition the local apple pack will be brought to a higher standard.

Second, it is recognized that a vast amount of publicity will be given the Pajaro Valley through the preparation and the events leading up to and embracing the competitive features of the show.

Third, the publicity thus gained will without doubt suggest to many the idea of using the apple as food, where now many, through ignorance or inappreciation of its food value, have excluded it from the every-day menu.

The rapidly increasing acreage of this very valuable and healthful fruit calls for a campaign of education among those who have not awakened to its value as a food product.

The industry is a clean one and in its several phases has no objectionable features. It returns rich revenues to those engaged in it and is a valuable asset to any community where it has developed to the proportions it has attained in this valley.

Besides the general good which it works, there are educational advantages to be derived from such an exhibition as is contemplated, as it admits of a comparison of methods in the manner of wrapping and packing the fruit which cannot help but prove beneficial, since it must lead to even better methods of handling and which will result in a more conscientious and careful selection of fruit and a more attractive and inviting package or box.

This show, which is to take place in Watsonville from October 10 to October 15, inclusive, and which is the initial one, will be held annually. A new pavilion 110x225 feet, and which will embrace about 100 feet square for exhibit purposes, has been especially constructed to suit the needs of the show, and yet is adapted to a wide scope of utility.

Among the features of the week will be an industrial parade, in which will appear floats conveying girls and women engaged in grading and wrapping the fruit, while men will be seen nailing boxes and performing such other work as naturally occurs in the operation of the apple pack.

In the parade will appear thousands of boxes of apples on the wagons that ordinarily convey the fruit to the packing houses, and will be so arranged and assembled as to show the volume of fruit that is ordinarily handled in a single day among the sixty packing houses that are required to complete the pack of the great industry.

ONE OF THE MANY STRAWBERRY FIELDS IN THE PAJARO VALLEY, CALIFORNIA

On another day, a parade along spectacular lines, showing artistic floats, arranged in fanciful designs and in which apples will constitute the chief ornamental embellishment, will be one of the features of entertainment that will fill a week with recreation and industrial demonstration. In fact, the practical phases of the industry are to be happily combined with unusual and stirring features of intertainment, that every moment of the week will be filled with interest and information.

Competition in grading, wrapping and packing between operatives from the various packing houses, to give visitors, under efficient guidance, an idea of the magnitude of the great industry that has made Watsonville famous.

The fact that handsome awards are to be made to packers on points of excellence of the pack insures an apple exhibit that will rival anything of the kind heretofore held in the state. Nor will this exhibit be confined to the crop of the valley, for displays from other apple-growing sections of California have been invited to compete for honors with us.

As an adjunct to this great show all those devices which enter into the cultivation and care of the orchard will be on exhibition and operated by competent demonstrators. In fact, there will not be one thing lacking, even to the loading and bracing of the cars before they are sent on their way to the leading apple marts of the world.

It is hard for the ordinary individual unfamiliar with the work to appreciate the magnitude of the effort required in gathering, grading, packing and shipping 4,500 carloads of apples, and it can only be partially grasped even by the slight contact of the one week which will be allowed the visitor, but through the intelligent arrangement of the week's program and with the one purpose paramount, it is hoped to achieve much in this direction.

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WHEN WRITING ADVERTISERS MENTION BETTER FRUIT

BEST ORCHARD LANDS IN OKANOGAN COUNTY

By Geo. J. Hurley. Photos by G. Ernest Oates

IN THE year 1885 the Moses Indian Reservation, in Okanogan County, Washington, was thrown open to homestead and mineral entry, and each Indian who was the head of a family was alloted one square mile of ground for himself and family, and the old chief, "Sar-sarp-kin," was allowed to select one mile wide and four miles in length. Sar-sarp-kin made his selection in the south end of the beautiful Sin-la-he-kin Valley, midway between Conconully (the county seat) and the Great Northern Railway, and his relatives took adjoining allotments, until ten miles of the valley had been selected, stretching from Sar-sarp-kin Lake on the south, the shore of which is the southern boundary of the old chief's allotment, and following the Sin-la-he-kin Creek which flows to the north, to within a mile of the town of Loomis, taking in the entire valley, which is one of the most beautiful in the entire state.

NORTH CENTER SINLAHEKIN VALLEY, LOOKING EAST

CENTER SINLAHEKIN VALLEY, LOOKING NORTHEAST

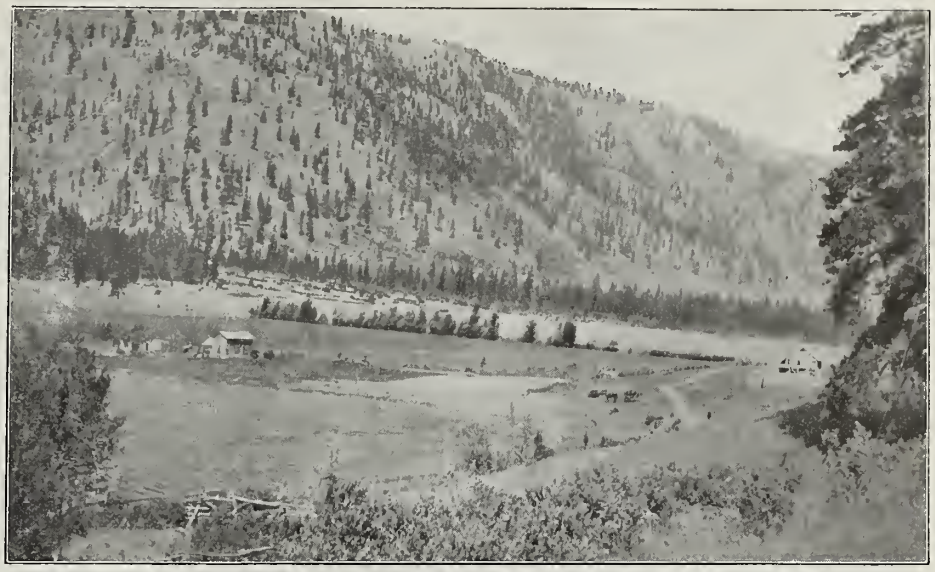
It reaches to the coulee walls on either side, the higher slopes being covered with bunch grass and open pine and fir, and along the stream birch, alder and quaking asp. The lower side hills are covered with bunch grass, and only wait to be plowed and planted to fruits, cereals and vegetables to furnish homes for two hundred families. However, it was impossible to dispose of any of this land, and thus it had laid for all these years, until all the original allottees had passed to their "happy hunting grounds," uncultivated and unproductive, in all its natural beauty, without even a fence to mar the view, awaiting some legislative relief that would allow the Indians to dispose of it. This was given by the Jones bill, which passed Congress three years ago, allowing the Indians to dispose of all except eighty acres in each allotment. The result was that four thousand acres have been disposed of and are being subdivided into ten and twenty-acre tracts, to be sold and planted to high-grade apples and other fruits, and in a few years will have attained its highest state of development. The entire valley is ideally situated for the production of fine-flavored and highly-colored commercial apples, as well as all other fruits grown north of California. The coulee walls, rising to a height of a thousand feet or more on either side of the coulee, protect the valley from all harsh winds, while gently rolling slopes on either side of the creek offer beautiful sites for homes.

These Indians had all of Eastern Washington, north of the Columbia River, from which to choose their allotments, and chose this valley owing to its mild winters, with little snowfall, where their cayuses and cattle could live with the least hardship. They called the valley "Tauts Coulee," "tauts" meaning good in their language; and it is a fact that there is less snowfall in this valley, between Sar-sarp-kin Lake and Nighthawk, than anywhere in Eastern Washington. It is only a question of a few years when this valley will be a second Hood River, only smaller, filled with beautiful homes, in a most delightful climate where we have three hundred days of sunshine, with never a warm night, and a soil of volcanic ash, with iron enough to give all sorts of fruits their highest color.

During his lifetime the old chief, Sar-sarp-kin, was the owner of a thousand head of cayuses and quite a number of cattle, and it was only necessary for him

COMMERCIAL PACK OF APPLES FROM THE MOSIER VALLEY, OREGON

to build a log or brush fence across each end of the valley to be a real "monarch of all he surveyed." The hills were filled with deer and goats, and the higher mountains were the homes of the bighorn sheep. Birds and fish were, and still are, abundant, and in the early summer these Indians caught and dried the salmon that came up to the gravelly beds of these streams to deposit their spawn. Later, they visited the camas fields to gather that succulent bulb, and the bready kouse root, and in the fall gathered the huckleberries, cherries and service-berries, all of which were dried for their winter use, living in their wickiups in this beautiful valley, uncontaminated by the liquor and other vices of the white man. But this condition could not continue always, and as the fruit industry forged to the front in this Northern section during the past ten years, the possibilities of this valley for fruit raising were soon made apparent, and these lands were acquired at prices that are making the heirs an independent aristocracy, unable to intelligently spend the money they receive as incomes from their vested wealth.



SOUTH END OF SINLAHEKIN VALLEY, OKANOGAN COUNTY, LOOKING NORTHWEST SARSARPKIN LAKE IN THE FOREGROUND, TO THE LEFT (A SMALL PORTION ONLY)

VIEW IN SOUTH SINLAHEKIN VALLEY, LOOKING NORTH, WHERE THE OKANOGAN FRUIT LANDS, IRRIGATION AND POWER COMPANY PLANTED A PORTION OF THEIR LARGE APPLE ORCHARD

The wickiup is to give place to the bungalow or suburban home, the cayuse to the automobile, and the old trail to the electric road, with telephones and electric lights; but the Indian still sits stoically on his cayuse, dressed in his gaudy blanket and beaded moccasins, watching these evolutions going on around him, and sometimes, I imagine, wondering what will come next; but no outward sign is visible on their stolid faces.

COMMERCIALLY PACKED BENTON COUNTY, OREGON, PEACHES

An incident occurred at the meeting of the Indian chiefs and the Government commissioners in 1885, showing that characteristics differ in them as well as their more highly cultured white brothers. The chiefs attending this meeting were Moses, Sar-sarp-kin and To-nas-ket, each representing his respective tribe. They were asked, "What do you want for yourself and tillicums?" Moses said, "My tribe can go onto the Colville Reservation, but I want the Government to pay me one thousand dollars each year as long as I live." This was agreed to, and Sar-sarp-kin then said, "I want for each head of a family, one mile square, and for myself one mile wide and four miles long of the best lands on the reservation." He also asked for a small money payment. This was also agreed to. Then Ton-as-ket spoke. He said: "For myself I ask nothing; but for my people I want a sawmill and a flour mill, and a good school house where my people can learn to become self-supporting," thus showing his unselfishness. This was the motive that impelled us older settlers who were acquainted with this circumstance when we petitioned the last legislature to divide this county, to ask that the new county be named Ton-as-ket.

As stated above, these lands were sold last winter, the purchasers being Messrs. T. Ernest Oates, W. A. Patterson, Gustav Baar, M. D., Mrs. L. Labowitch, Geo. C. Cavaline and Hiram C. Hutchinson, of Portland, Oregon; J. M. Williams, Yamhill, Oregon; Jos. Bixby, Newberg, Oregon; H. N. Aldrich and W. E. Linnett, of Bridal Veil, Oregon; O. S. Hutchinson, Eugene, Oregon; H. H. Wadsworth, Oakland, California; A. A. Miller, Jefferson, Oregon; J. P. Forde and Geo. J. Hurley, of Loomis, Washington. The land being bought at very reasonable figures, considering the character of it, and as these people are all desirous of seeing this valley develop into one of the beauty spots of the state, these holdings will undoubtedly be placed on the market at prices that will attract the most desirable class of residents, and thus provide homes in this valley for two hundred families, where before lived a dozen indigent siwashes.

GRADING BOARD

The holes in your grading board should be as follows: The largest for apples running from 36 to 54 apples to the box; the next, from 60 to 88 per box; the next, from 96 to 128 per box; the next, from 144 to 175 per box, and the last from 185 to 200 per box. Hang this board two feet above your grading table.

BETTER FRUIT

HOOD RIVER, OREGON

OFFICIAL ORGAN OF
THE NORTHWEST FRUIT GROWERS' ASSOCIATION

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PUBLISHED IN THE INTEREST OF MODERN
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ADVERTISING RATES ON APPLICATION

Entered as second-class matter December 27, 1906, at the Post Office at Hood River, Oregon, under Act of Congress of March 3, 1879.

IT IS with a great deal of pleasure that the editor of "Better Fruit" notes the improvement in the pack of apples throughout the Northwest. He has been an attendant at nearly every horticultural meeting and apple show where a display of apples was made during the last seven years, and feels free to say that generally speaking, the pack was very different in a great many locations previous to the publication of "Better Fruit." Each year "Better Fruit" has produced a packing number, and I might add that the packing edition of "Better Fruit," in our opinion, without any doubt contains more instructions about packing fruit, and handles the subject better, than any other horticultural publication. Each year the improvement in various districts has been really wonderful, and "Better Fruit" feels justified in assuming great credit for this improvement. In fact, many of our subscribers have written us that "Better Fruit" has been their guide. Many of the exhibitors at the Spokane National Apple Show of 1908-9 have told us they packed their exhibits in accordance with instructions given in the special packing numbers, and many of these were successful in carrying off first prizes, not only in box exhibits but also in carload exhibits.

LOW ORCHARD WAGON FOR HAULING APPLES TO THE PACKING HOUSE

We believe this number contains much valuable information along this line and it has been our aim to give to each one of our readers the best information on packing apples.

◈ ◈ ◈

THE October issue of "Better Fruit," if it is possible to prepare it, will contain an article about the International Apple Shippers Association meeting at Niagara Falls, August 3, 4 and 5, which we trust will be not only interesting but of great value to the fruit growers of the Northwest.

◈ ◈ ◈

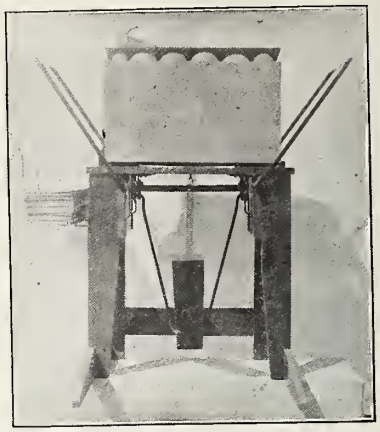
THE apple crop will be considerably larger in Oregon, Washington, Montana, Idaho and Utah this year than last. The apple crop in California will not show any material increase and Colorado will be less. It was our intention to have given statistics in this issue on the probable yield, but on account of the immense amount of work necessary to be done in advance to enable the editor to attend the International Apple Shippers' Association at Niagara Falls, August 3, 4 and 5, we have been unable to complete the estimates in a way sufficiently satisfactory and definite. We hope we will be able to give data that will be reliable about the apple crop of the Northwest in the October issue.

The apple crop of the Northwest, we believe, is the best in the history of the business. The apple crop in the Middle West is comparatively very light. Eastern conditions at the present time are fair. It seems that the apple growers are justified in assuming that apples will command a good price this year. By that we do not mean foolishly high prices, but reasonable prices. It is probable that prices will be somewhat lower than last year. The crop of apples in the Northwest last year was considerably below the normal yield.

◈ ◈ ◈

THE editor of "Better Fruit" left for Niagara Falls on July 29 to attend the International Apple Shippers' Association. On this trip he will visit several of the important cities, that is, the big cities where the heavy apple business is done in the Northwestern apples, to study the conditions from the other end of the line for the benefit of our subscribers, and to endeavor to increase the business and influence of "Better Fruit" in every way possible.

The assistant editor, C. R. Greisen, left on July 22, making a more extended trip and visiting more cities in the interests of "Better Fruit." We have told our readers many times that it costs a lot of money to publish "Better Fruit" every month. We have repeatedly told you we are trying to improve "Better Fruit," and we have always assured you that it has been our aim to give the best information we could to the fruit grower, regardless of expense. It is an expensive trip East, as everyone knows who has made the trip, and our readers must realize that we have great confidence in the future fruit industry of the Northwest when "Better Fruit" goes to the expense of sending two men across the continent to secure information. And we believe we are justified in saying that no other similar publication of the Northwest has ever undertaken such heavy expenses as "Better Fruit" in order to produce the best that can be published. And while we do not know of a single horticultural paper that has sent a representative East in the interests of fruit growing, we trust that you will appreciate our undertaking in sending two men from our country to investigate the different fruit sections.



APPLE PRESS MANUFACTURED BY W. L. GOYETT, CANYON CITY COLORADO

THE CYCLONE APPLE PRESS
Sold by Wells & Morris, Wenatchee, Washington

Members of
National League of Commission Merchants

Members of
Western Fruit Jobbers' Association

G. M. H. WAGNER & SONS

Market Builders and Specialists

IN THE

SUCCESSFUL DISTRIBUTION AND DISPOSITION OF

HIGH GRADE BOX APPLES

AND OTHER FRUITS

A complete equipment and a complete organization with established connections. Located for forty years in the greatest market on earth

165 South Water Street, Chicago, Illinois

CORRESPONDENCE INVITED
BEFORE OPENING ACCOUNTS

Members of
International Apple Shippers' Association

Bankers:
First National Bank

THE TROUTMAN
ORCHARD HEATERS

Offered at Special Prices for Two Months

Send for catalog of the "Troutman Attachment," for use in the protection of small fruits. The only device on the market especially made for small fruit heating.

Get your orders in early and save enough to cover the cost of freight

The Troutman **Galvanized** Heaters are also something new, and are the only heaters non-rustable and non-leakable.

WE MANUFACTURE SEVEN TYPES AND SIZES
THE CENTER DRAFT MAKES OUR HEATERS WITHOUT AN EQUAL
THE SAVING IN OIL WILL SOON PAY FOR THEM.
AGENTS WANTED

The Round Crest Orchard Heater Co.

CANYON CITY, COLORADO

The Hardie Triplex

From Maine to Washington, the Hardie Triplex Sprayer is working successfully. Our model for 1911, shown in the cut above, gives you an idea of the completeness of this machine.

Small details, which tend to perfect it in usefulness and completeness, are carefully looked after.

We give you a machine ready to run every minute you need it, doing efficient work for you all the time, and with

Nothing to Watch but the Spray

Light in weight, compactly built, efficient in every way, don't buy till you see the HARDIE TRIPLEX.

Our new catalog is now ready, showing over twenty different styles of hand and power spraying machines, nozzles, hose, etc.

Last spring when looking for a sprayer we looked at all the sprayers on the market and decided on the Hardie as being the machine suitable for our work. Before buying we were told by some that the brass cylinders on the Hardie pump would not last and would be soon eaten up by the action of the spray material. After a season's use we can say that the cylinders are as good as when the machine was taken out. The machine has been exceedingly satisfactory in every respect and has done all you claimed for it. You may use our names as reference at any time.

P. J. Morris.
J. R. Phipps.
Wenatchee, Washington.

The Hardie Triplex Sprayer I purchased this spring has given the best of satisfaction and I do not hesitate in recommending it to every one as the best power sprayer on the market. On account of its low build and light weight it can be taken into orchards where no other power sprayer would go without tearing the trees and knocking off the fruit. I have not paid out one cent for repairs this year.

Dr. H. J. Whitney.
Cashmere, Washington.

Send for Our Catalog Today

The Hardie Manufacturing Company

Hudson, Michigan — 49 Front Street, Portland, Oregon

Four-year-old Cherry Trees, Fairview Orchards, The Dalles, Oregon, R. H. Weber, Owner

RAISED AND MAINTAINED WITH THE

KIMBALL CULTIVATOR

Great Weeds and Ferns Exterminator

Office and Factory, 811 East Second Street
Long Distance Phone, Main 3671

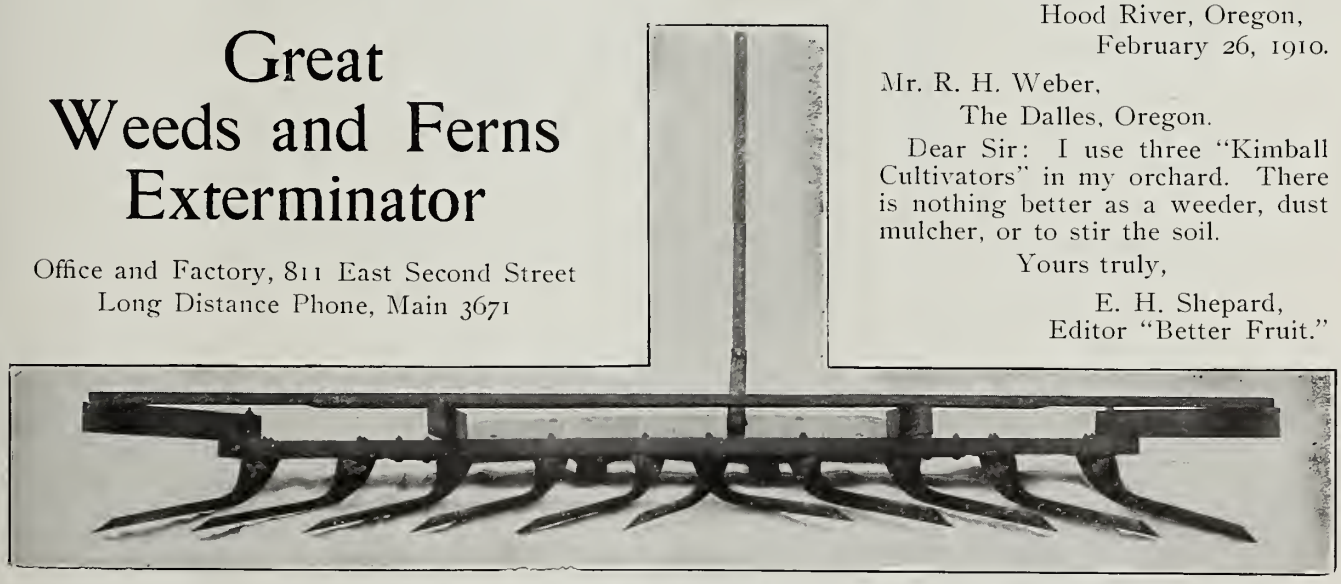
Hood River, Oregon,
February 26, 1910.

Mr. R. H. Weber,
The Dalles, Oregon.

Dear Sir: I use three "Kimball Cultivators" in my orchard. There is nothing better as a weeder, dust mulcher, or to stir the soil.

Yours truly,

E. H. Shepard,
Editor "Better Fruit."



NINETY PER CENT HOOD RIVER ORCHARDISTS USE THIS MACHINE
SEND FOR ILLUSTRATED DESCRIPTIVE CIRCULAR

JOHNSTON & WEBER, Manufacturers, The Dalles, Oregon

FACTS CONCERNING THE BITTER ROOT VALLEY

PRODUCTIVE CAPACITY

McIntosh Red Apples	$500-$1,000 per acre	Onions	$350-$450 per acre
Wealthy Apples	$250-$500 per acre	Celery	$400-$800 per acre
Alexander Apples	$200-$400 per acre	Raspberries	$300-$400 per acre
Cherries	$10-$20 per tree	Strawberries	$300-$450 per acre
Transcendent Crabs	$500-$1,200 per acre	Blackberries	$300-$400 per acre
Plums	$5-$10 per tree	Currants	$200-$300 per acre
Pears	$800-$1,500 per acre	Carrots	1,000-2,000 bushels per acre
Oats	60-100 bushels per acre	Potatoes	200-600 bushels per acre
Wheat	40-60 bushels per acre	Hay	¾ ton per acre
Alfalfa	4-5 tons per acre	Sugar Beets (experiments on Daly ranch)	16.9 tons per acre

Sugar percentage, 19.64.

WHAT WE OFFER

Land for the resident, non-resident, investor.

Tracts of irrigated land, improved or unimproved, from ten to one thousand acres, in any part of the Bitter Root Valley. All water rights on land offered for sale by us will stand the strictest investigation.

To all purchasers of land from us the privilege of free consultation and advice from Professor R. W. Fisher, resident manager of the "Thousand Acres Ranch," and a horticulturist of national reputation.

First-class loans on improved farm property at a good rate of interest.

For additional information and illustrated matter address

THACHER-TORRENCE GENERAL LAND AND INVESTMENT CO.

References: Any bank or business man in Hamilton. *Home Office: HAMILTON, MONTANA*

OPERATION OF THE CANADIAN FRUIT MARKS ACT

BY A. McNEILL, CHIEF FRUIT DIVISION, DEPARTMENT OF AGRICULTURE, CANADA

THE Fruit Marks Act has been in operation in Canada for some time, long enough to develop the weak and the strong points of the act, though it may not be long enough to secure all the advantages that may arise from such legislation.

The act prescribes that all closed packages, boxes and barrels shall be marked, first, with the name and address of the owner of the fruit at the time of packing; second, with the variety of the fruit; and third, its grade. One of four grade marks must be used, namely, fancy, No. 1, No. 2 or No. 3. Any one of these grade marks may be used together with any other designation that is not contradictory to, or more prominently marked than, the prescribed grade mark.

The act also provides that all packages, whether open or closed, must be so packed that the face or shown surface fairly represents the grade of fruit all the way through the package.

Three grades are defined. The fancy grade consists of fruit practically perfect. The No. 1 grade allows 10 per cent of imperfect fruit; 90 per cent must be practically free from serious defects and of good shape and color. No. 2 grade consists of 80 per cent free from defects that would cause material waste; and all the apples, whether defective or not, must be nearly medium in size for the variety. No. 3 grade is not defined.

The rest of the act is taken up in naming the penalties and in providing machinery for its enforcement. The fine for violations is not less than twenty-five cents, nor more than $1.00 per package.

The workman who packs and marks fruit contrary to the provisions of the act, is subject to a fine not less than $5.00 nor more than $40. Anyone

DO YOU KNOW

HOW

We have secured such satisfactory results for the growers whose fruits we have handled for several years?

Write us, we will gladly explain

DENNEY & COMPANY

Distributers and Wholesalers Northwestern Fruits

CHICAGO

OFFICERS
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E. H. HARTWIG, VICE PRESIDENT
J. H. OSBORNE, TREASURER
J. C. SKINNER, SECRETARY

DIRECTORS
CHAS. HALL — E. H. HARTWIG
J. H. OSBORNE — A. J. DERBY
E. O. BLANCHAR — ERNEST C. SMITH
C. T. EARLY

LOCK BOX 603 — HOOD RIVER, OREGON.

August 27, 1910.

Better Fruit Publishing Company, Hood River, Oregon.

Gentlemen: Will you please apologize to the hundreds of your readers, who wrote to us asking for our NEW BOOKLET.

We were assured the booklet would be in our hands the first of this month, and therefore placed our ad in your paper, saying the booklet was finished and ready for delivery.

Owing to our desire to make this the most beautiful booklet ever printed (which it will be), it has taken more time and care than we at first thought.

A wire from the printers, received yesterday, says, "We will make shipment of NEW BOOKLETS by 10th of September."

We will send them out to our inquirers, whose names have been listed, as soon as received.

Please inform your other readers that we would be pleased to send to them, if they will drop us a line requesting same, the most beautiful booklet ever printed, telling all about HOOD RIVER, her scenic beauty, excellent climate and wonderful orchards, which have produced the highest priced apples for ten years. The booklet will also contain information of interest to people who would like to get back to the soil, thereby increasing their appetite, at the same time increasing their bank accounts.

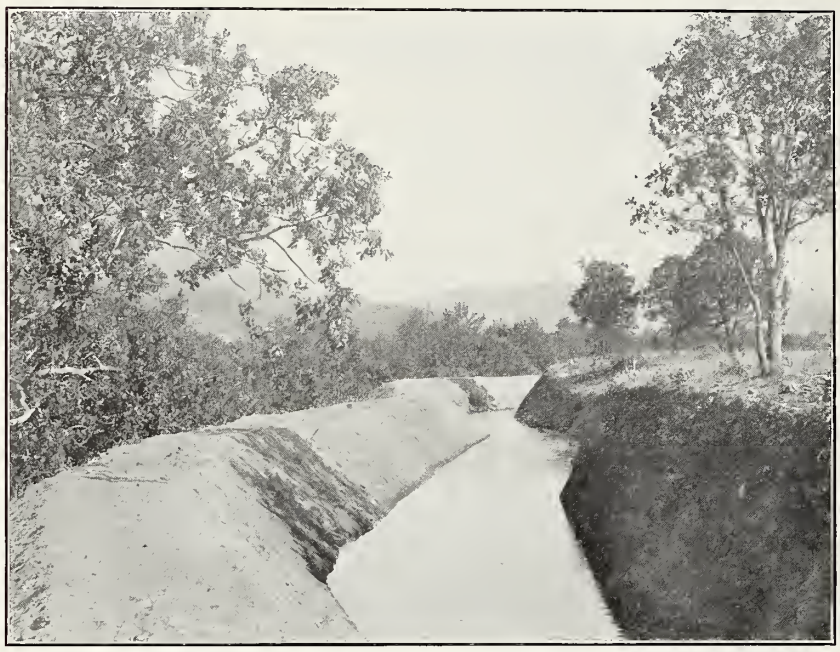
Yours very respectfully,

HOOD RIVER COMMERCIAL CLUB.

J. C. Skinner,
Secretary

HOOD RIVER is a high-class specialty valley, raising only Clark Seedling strawberries; a specialty of two apples, Newtowns and Spitzenbergs; the only fruit district in the world where fruit growers own their own irrigating system, shipping warehouse and cold storage plant. Population 8,000, with bank deposits of $1,000,000; 1,200 phones; University Club of 130; electric lights covering valley; rural free delivery; water and railroad transportation. This valley has received highest price for apples in each year for ten years on the four-tier Spitzenbergs, receiving $3.35 a box in 1909. Lumber output $750,000; Commercial Club of 400 members, continually advancing the interests of town and valley.

Irrigated Orchard Tracts **Rogue River Valley**



COMPLETED SECTION OF NEW CANAL. ROGUE RIVER VALLEY CANAL COMPANY. WILL IRRIGATE FIFTY-FIVE THOUSAND ACRES

Write for the Proof
Three Reasons Why

THE ROGUE RIVER VALLEY is entitled to be called the best fruit district in America.

NO PIONEERING HERE

Before we turn our land over to the purchaser it is plowed, leveled, planted to trees, fenced and properly irrigated. Every acre carries with it a perpetual water right. At all times the purchaser can consult our expert orchardists, and have the benefit of our demonstrating stations. We also make special contracts for the care of orchards. If you would succeed from the start, come to a proven district.

FOR FULL INFORMATION WRITE TODAY

ROGUELANDS INC.

Fred N. Cummings, Manager

MEDFORD, OREGON

changing the marks upon packages after inspection is subject to a fine not less than $40 nor more than $500.

The act is enforced by a staff of ten permanent inspectors, assisted by eight temporary inspectors. These are distributed over the whole Dominion, but special attention is paid to the export points, particularly Montreal, St. John and Halifax.

In the enforcement of the act it has been found necessary to make an average of about fifty prosecutions a year; and it is noticeable that only in a comparatively few cases is the same man fined twice.

There are now between fifty and sixty co-operative apple-selling associations in operation in the Dominion of Canada, and in no instance has a co-operative association been fined. The interpretation of this fact is that the co-operative system removes very largely all temptation to mark or pack fraudulently; but perhaps even a more potent influence is in the closer supervision which can be given to the workmen by those in authority under the co-operative mode of work. Instead of sending out gangs of men into isolated orchards, the co-operative associations are gathering the fruit into packing houses and having the work done under the supervision of competent and responsible men.

The success or failure of the act must be judged by the evidence which is forthcoming from those who have watched the working of it and who are affected by its results. The presumption is, of course, that the act was framed for the benefit of the producers, middlemen and consumers. These three classes, therefore, should be heard from. The law was enacted primarily for the benefit of the Canadian people, but as the export feature of the Canadian apple trade is a most important one, the success or failure of the Fruit Marks Act has to do with the foreign countries using Canadian apples. Testimony, therefore, of those who buy Canadian apples in foreign countries will be of value.

The opinion of the Fruit Marks Act held by Canadian growers may be gauged very accurately by the criticism of the provincial associations of each of the provinces of Canada where fruit growing

THE BEST FOR THE LEAST MONEY

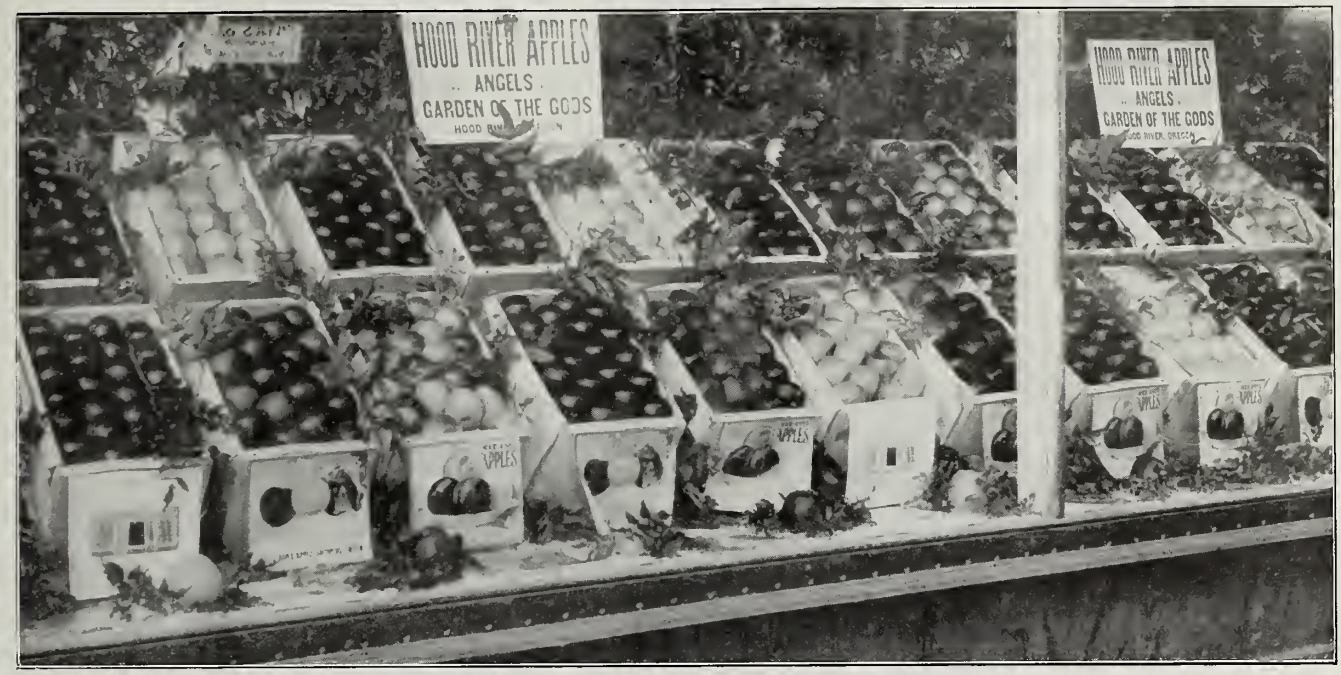
Rogue River Valley, Southern Oregon

This 25-acre tract, 3½-year-old Spitzenberg and Newtown Pippins, at **$450** per acre for a short time, whole or divided; deep, free, river bottom loam soil; on level road four miles from town, along the Rogue River. **Best of fishing.**

I have a choice list of **bearing** and **partially developed** orchard tracts. Also of deep, free, red shot soil, and of irrigated and sub-irrigated valley and first bench lands, for fruit and general farming, at exceptionally low prices.

Write to or call on A. N. PARSONS, GRANTS PASS, OREGON

References by permission: First National Bank; Grants Pass Banking and Trust Company



THE above illustration depicts a portion of the prize-winning fruit at the Hood River Fair, as later exhibited at Portland. It shows the best fruit in the world, and was grown on land exactly the same as thousands of acres which may yet be bought in this famous valley, at prices which will permit of handsome returns upon the investment.

We Have Such Land for Sale—The Prices are Right, the Profits are Sure

Our list includes properties in all stages of development, from the uncleared land to orchards of the highest type known. Also accurate information as to the productivity of hundreds of other places which may be purchased.

Correspondence solicited.

THE L-P LAND CO. 12 Smith Block HOOD RIVER, OREGON

is an important feature. Without exception, the provincial associations have expressed their hearty approval of the Fruit Marks Act and the way in which it is enforced. It would not be hard to make a list of many hundreds of growers who have, during the past six years, expressed individually their approval of the principles of the act.

The retail fruit merchants represent perhaps more nearly the consumers. They have almost without exception expressed their approval of the principles of the bill and they are at present engaged, through their Dominion association of retail sellers, in introducing new features for the purpose of more effectively enforcing the act locally; but there is no dissenting voice with reference to the principles of the act itself, and there is no difference of opinion with reference to the very great improvement that the act has made in the local fruit trade, as well as the export trade.

The apple operators who are the true middlemen are not quite so unanimous. There are, indeed, among them a few who are not favorable to the act, though I know of no one who objects to the principle of the act, the objections being urged against special features or against what they deem the indiscreet enforcement of it. The explanation is found, I believe, in the nature of the business and the character of many of the men who follow the employment of buying and selling apples. This business is largely speculative as usually conducted. The buying is done comparatively early in the season, before the volume of the crop or the market values can be estimated with any degree of certainty. Under such circumstances it is easy to see that sanguine buyers are frequently tempted to pay higher prices than the markets ultimately justify. When the time for marketing comes, the temptation is almost irresistable to so pack and mark these apples that the buyer can finish the transaction without serious loss. This is done by over-facing and over-grading. It will be readily understood that dealers of this unscrupulous type are not seriously in favor of any restrictions being placed on their actions.

On the other hand, many of our merchants, and the best of them, look for-

Are You Interested in Fruit Growing?

If so, Investigate the MOSIER VALLEY

It adjoins the famous Hood River Valley and is properly a part, as far as character of the soil and the fruit produced is concerned. Only six miles from the Hood River Valley, extending from the Columbia River to Mount Hood. Our apples have received highest prizes at Hood River Fairs, in competition with Hood River apples.

We are second to none. We have got splendid lists of bearing orchards, young orchards and unimproved land.

WRITE FOR FULL PARTICULARS AND PRICE LISTS

GEO. CHAMBERLAIN MOSIER, OREGON

"OREGON IS THE PLACE FOR ME"

PORTLAND COMMERCIAL CLUB
Portland, Oregon

Send me specific information about what Oregon has to offer

- ○ Apple Orcharding
- ○ Pear Orcharding
- ○ Peach Orcharding
- ○ Prune Orcharding
- ○ Live Stock Raising
- ○ Poultry Raising
- ○ Truck Farming
- ○ Walnut Culture
- ○ Wheat Growing
- ○ Dairying
- ○ Timber
- ○ Hotels
- ○ Resorts
- ○ Schools
- ○ Railroads
- ○ Towns
- ○ Mining
- ○ Manufacturing
- ○ Water Power
- ○ Merchandising
- ○ Berry Growing

Name .....

Street .....

Town .....

State .....

That's what you'll say when you learn specifically just what opportunities Oregon can offer you in *your own line* of endeavor.

The Portland Commercial Club will lend you all the assistance within its power to make you thoroughly acquainted with the possibilities Oregon offers you in your own line. It will tell you specifically what inducements different sections of the state are offering.

In manufacturing—in dairying—in agriculture—in fruit raising—and all other lines, Oregon offers splendid opportunity for great and successful achievement.

Take out your lead pencil or pen—look down the list of industries, and in the little circle opposite the business that interests you most, make a mark, clip out the list and mail it in. In return you will receive valuable and specific information regarding those sections of Oregon peculiarly adapted to your special line. Write a personal letter. Ask questions that come into your mind. They will all be answered fully and comprehensively. Check the list now while you have it in mind.

Portland Commercial Club
Portland, Oregon

ward to the apple business as a permanent feature of their work and so conduct it that they may continue in it from year to year. Such men do not find it necessary to secure a profit on each particular deal, but are willing in this, as in other commercial transactions, to average up the business of the season and are satisfied if out of a large number of contracts the balance is upon the right side for them. They are, therefore, not tempted to practice the arts of the buyer who is in the apple business in such a way that he must secure practically a profit upon each transaction.

Of course there are a large number of itinerant buyers who have no status whatever in the country, and who are willing to do anything in order to make a profit, having no reputation to sustain.

These last two classes of buyers are not friendly to the Fruit Marks Act.

The reception of the act in foreign countries has been even more enthusiastic than in Canada itself, inasmuch as the law, with reference to the export trade, is more effectively enforced than for the local trade.

The following extract is from the London, England, "Fruit Grower."

"The United States consul in Edinburgh records the fact that Canadian apple imports are gaining a very strong position in the Scotch markets, in some cases supplanting the United States supplies. Mr. Fleming states that the system of inspection adopted in Canada and subsequently renewed at the British ports, has served as a guarantee to the buyers of Canadian apples and has in this way proved useful to seller and purchaser."

Extract from letter of Thomas Russell, fruit dealer, Glasgow, Scotland:

"In reference to the packing of apples in barrels there can be no doubt the passing of the Fruit Marks Act, 1901, has had a most beneficial effect in improving the grading and marking of the fruit."

Extract from an interview with Mr. Dennis, a broker of Covent Garden, London, England:

"I think the act is a very great advantage, and if the trade on each side co-operate with the Fruit Department, I am sure it will be to the benefit of all

JAMES J. HILL SAID OF

The Willamette Valley, Oregon

"You have a valley here which is the most wonderful I have ever seen. * * * In this valley a man can make $5,000 a year from off ten acres."

We are selling Willamette Valley Fruit Lands, which are being developed under the supervision of Hon. W. K. Newell, president of the Oregon State Board of Horticulture. Call on or write us for particulars.

THE A. C. BOHRNSTEDT COMPANY

629 Palace Building
MINNEAPOLIS, MINNESOTA

CRESWELL, OREGON

302 U. S. National Bank Building
SALEM, OREGON

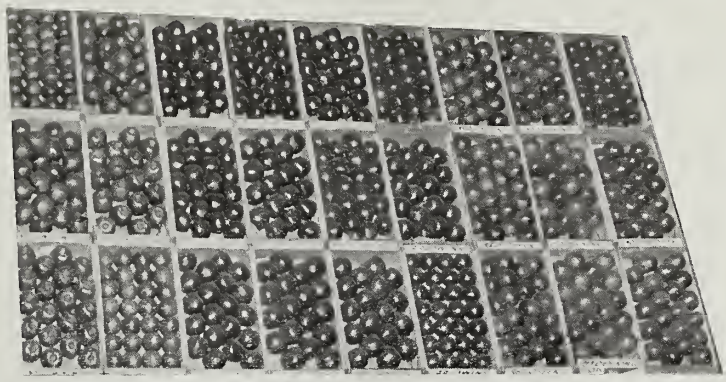
WYETH & ALLEN, Hood River, Oregon

Can supply you with a great variety of the very best

APPLE LAND

In the Famous Hood River Valley and District

If you live here the union will pack your fruit like this, and will place it in the big markets of the world.



A FEW BOXES OF HOOD RIVER APPLES FROM A CARLOAD SENT TO THE LAND AND IRRIGATION EXHIBIT, CHICAGO, 1909

And Wyeth & Allen will sell you the land on the best terms possible and at the most moderate prices.

Communicate with us. Smith Block, Hood River. Long distance telephone 175

ANYTHING FROM RAW LAND AT $50 AN ACRE TO A FULLY DEVELOPED ORCHARD AT PRICES WHICH WE WILL QUOTE YOU UPON APPLICATION

concerned. There has undoubtedly been a vast improvement in the packing and grading."

It might be remarked here that the advantage accruing to the Canadian grower does not consist simply in the consciousness that he has not cheated anyone, either in the marking or packing of his apples. In fact, the Fruit Marks Act is in no sense of the word an attempt to make people honest by legislation; but, though it does not do this, it certainly does make them "act as though they were honest," as one of your college professors said when writing to me regarding the act. The advantages accruing to the buyers of apples are evident. They are fairly sure that they are getting exactly what they have paid for. The advantages to the Canadian grower appear in the strongest light in the market reports of Great Britain.

In recent years, since the passing of the Fruit Marks Act, trade journals and the brokers who furnish market reports, distinguish between Canadian apples and American apples. This can be seen in the case of the quotations furnished by Woodall & Company, and James Adam & Son, Liverpool. A comparison of their reports for the season will show that Canadian apples now range about two shillings higher on the average than American apples; the difference being higher on some varieties than on others. It would not, however, be correct to credit the whole of this increased price to the Fruit Marks Act. In keeping qualities, at least, it is generally conceded that frequently the Canadian apple has somewhat the advantage, and, too, the Canadian barrel is larger than the American; but the combined fact of the quality of the fruit and the size of the barrel still leaves a large margin that can only be accounted for by the uniform marking and packing that comes

A Box of Hood River Newtowns

Epping, Brydle Company

Hood River, Oregon

After purchasing orchard land in Hood River and planting more orchards, so many of our friends came to us for advice in selecting locations that we were practically forced into the real estate business to get some remuneration for our valuable time.

We have listed a few choice orchard properties and can show you very select pieces. Our list includes bearing orchards, young orchards of different ages, and undeveloped tracts of various sizes. We can sell you undeveloped tracts in Hood River Valley close to the Mount Hood Railroad, finest kind of soil, at a bargain, some as low as $100 an acre.

Write us for our list of select orchard property, or, better, come and see us and we will give you a ride in our automobile and show you over Hood River Valley, famous the world over for its scenery, climate, progressiveness, good schools and wonderful apples. Hood River apples have gotten the highest prizes of any apple in the world for ten consecutive years.

ADDRESS

EPPING, BRYDLE COMPANY

First National Bank Building Hood River, Oregon

FARM WANTED

If you wish to sell your farm give me price, description, etc. I want to hear from owner who wishes to sell direct to buyer without paying any agent's commission. There is a good buyer for it, willing to pay your price. I can locate him for you. Not particular about location. Write me at once, giving full particulars, and state when possession can be had, and see if we can close up a deal in short order. C. F. CALLFAS, 28 King Street West, Berlin, Ontario, Canada.

FOR SALE

A fine irrigated fruit ranch, near Kennewick, Washington; 9¼ acres bearing fruit trees, nice house and outbuildings; this year's crop will net 25 per cent of the sale price. A snap. For further particulars, write H. Rogell, Mullan, Idaho.

FOR SALE

By the owner, 154 acres best fruit land in the famous Clarks Fork Valley, Montana; all under ditch; now in crops. Price $10,000. Address WILLIS TODD, Coalville, Montana.

as the result of the enforcement of the Canadian Fruit Marks Act.

That such excellent results can be secured with so small a staff is naturally a matter of surprise. The explanation lies largely in the fact that the great majority of apple growers and apple packers prefer to pack and mark as prescribed by the Fruit Marks Act because it is the simplest and most direct method of securing a perfect understanding between the buyer and the seller. If the buyer wishes to look at the fruit, the face shows the quality of the whole barrel. If he does not wish to examine the fruit, the marking upon the outside will indicate with a fair degree of definitness and accuracy the kind and quality of the fruit included in the barrel.

Due allowance being made for the honesty and straightforwardness of the Canadian apple packers, it is still found necessary to use the utmost discretion in distributing the time of the very few inspectors detailed for this work. The chief reliance is placed upon inspection at export points. A very large proportion of the fruit is shipped from the three ports, Montreal, St. John and Halifax. The inspectors are, therefore, concentrated at these points, the size of the staff at each port varying according to the volume of trade going forward at any particular time.

In addition to this work, one or two traveling inspectors in each province are detailed to work in the fruit districts in such a way that any of the large packers are liable, at any time, to be visited by an inspector; and, though these visits are not likely to be made more than once or twice in a season, yet special information which the inspectors may receive, results in closer attention to any particular packer who may need it.

But, whether the inspectors are working in the orchards or packing houses, or at the port of export, it is not the actual number of packages which they inspect that forms the safeguard so much as the fact that the packers throughout the whole Dominion know that their fruit may be opened at any time.

Incidentally, the traveling inspectors give a great deal of information with reference to grading and packing in the course of their visits from orchard to orchard and from packing house to packing house. Not infrequently meetings are called where packers are numerous, and a special effort is made to secure uniformity in grading as well as the highest excellence in packing. Advantage is taken of such meetings as fall fairs and general meetings of farmers in fruit districts to give special instruction in grading and packing. The speakers at farmers' institute meetings are supplied by the Department of Agriculture with special literature regarding the apple trade, and copies of the Fruit Marks Act are distributed as widely as possible among the growers and packers.

◈ ◈ ◈

PROPOSED RULES for the championship apple packing contest, to be held at the Third National Apple Show, Spokane, Washington, Wednesday, November 16, 1910:

1. The management to furnish tables, boxes, paper and apples for the contest.
2. Contestants to draw lots for places and numbers.
3. Each contestant to be provided at his stand with six boxes of apples, sizes 150 to the box and larger, so as to afford variety in pack.
4. Apples to be placed on the tables by disinterested persons, aiming to give each contestant a fair average of the whole lot.
5. Apples to be packed diagonally in the standard apple box adopted by the Northwest Fruit Growers' Association.
6. Each contestant to pack four boxes. Time to be called when packer places last box on the floor.
7. To secure perfect, or 20 points for speed, the contestant must pack the four boxes within thirty minutes. Every three minutes longer will reduce the score two points, and if not finished within sixty minutes the contestant will be ruled out.
8. The following score card to apply: Speed, 20; uniformity, 10; alignment, 10; bulge, 15; height at ends, 15; firmness, 15; wrapping, 15.

Prizes—First prize, $100 cash and specially designed and engraved medallion watch charm; second prize, $50 cash; third prize, $25 cash.

Earl Wood J. W. Merrifield Geo. L. Robinson

APPLE AND FARM LAND CO.

City Property

SPECIALTY MADE IN FRUIT LAND

5 and 10-acre Tracts

Home Phone Main 661
Bell Phone Main 1

Main Street, Silverton, Oregon

FOR SALE Would you be interested in buying one of the best twenty-acre six-year-old orchards in the West, and my home, which is considered the best in the Spokane Valley? This year's crop estimated at 2,500 boxes.

Address C. F. FULLERTON, Otis Orchards, Washington.

FOR SALE TEN AND TWENTY ACRE TRACTS

Of the richest and choicest apple land in the White Salmon district. Located about three miles from White Salmon, Washington. In splendid neighborhood. Fine ranches surrounding it. This is absolutely right in every way. Prices very low. Call or write.

CHAS. ZOLLINGER 313 Corbett Building, Portland, Oregon

FOR SALE 144 acres of land in Upper Hood River Valley, suitable for fruit. Four miles from Parkdale station; under the new Glacier ditch; five acres cleared; situated on stage road to Mount Hood; good cabin and barn. $65 per acre; terms.

John Goldsbury, Parkdale, Oregon

G. Y. EDWARDS & CO.

HOOD RIVER, OREGON

Our Specialties:

Fruit Lands, Orchards and Raw Lands

Get our literature and list of orchards

WRITE US FOR PARTICULARS

$300 an Acre and Up

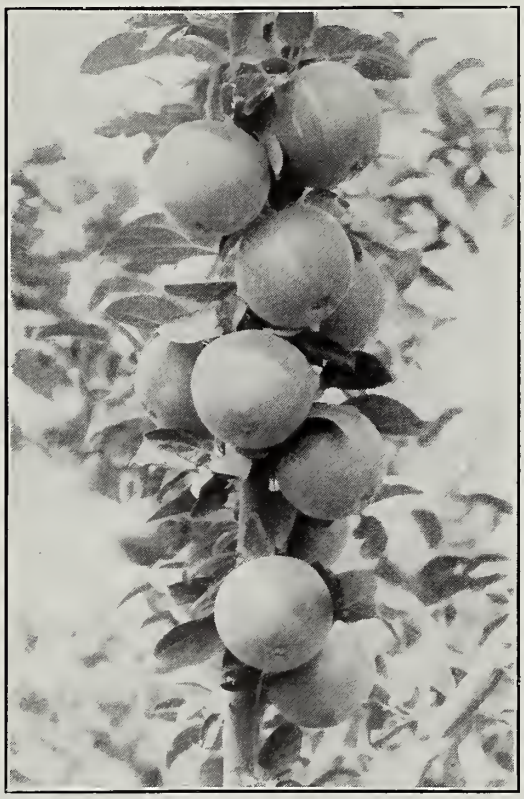
VERA

Own a Fruit Tract Near Spokane

Spokane's Choicest Irrigated Fruit Land is

"Above the Average"

Vera is not ordinary fruit land, but land that has proven its productive qualities in producing the finest and choicest fruit. Vera is a modern, up-to-date, irrigated orchard district, with electric lights, domestic water supply, good transportation facilities, and all the conveniences that could be desired. The maintenance fee is low—less than $5 per acre per year to maintain your orchard and home. This includes electric light and water under pressure and other conveniences.



GROWN AT VERA

Vera is only five and one-half miles from Spokane—the wealthiest city in the Inland Empire. There's money here. There is a good market for your fruit, too. The fruit land you buy now at $300 an acre and up, on easy terms, will increase in value considerably during the next few years. It is an investment you can't afford to overlook. Investigate!

SEND FOR OUR BOOKLET

VERA LAND CO.

P. A. SUMMERLAND, General Manager

326 First Avenue
Spokane

It's a Success "VERA"

USE THIS COUPON

Gentlemen:
Please send me your book telling all about Vera.

Name .....

Address .....

A Trip to the Coast

Is incomplete without a ride on the

Mt. Hood Railroad

By mountain streams, virgin forests, apple orchards and snow capped peaks

Connects with O. R. & N. at Hood River, Oregon

CAPITAL STOCK $100,000 SURPLUS $20,000

FIRST NATIONAL BANK

HOOD RIVER, OREGON

F. S. STANLEY, *President*
J. W. HINRICKS, *Vice President*
E. O. BLANCHAR, *Cashier*
V. C. BROCK, *Assistant Cashier*

ESPECIAL ATTENTION AND CARE GIVEN TO BUSINESS DEALS FOR NON-RESIDENT CUSTOMERS

Assets over $500,000

Savings Bank in connection

Send us your
White Salmon Valley Business

White Salmon Valley Bank

Under state examination

White Salmon, Washington

THE FIRST CANADIAN NATIONAL APPLE SHOW AT VANCOUVER, B. C., OCTOBER 31 TO NOVEMBER 5, 1910

IN this year of flattering prospects for a bumper crop of apples we desire to congratulate the fruit growers of Canada and the United States. All honor to the pioneers of this great industry, whose optimism and confidence in their own abilities, whose willingness to cope with every emergency, and whose intelligent application of scientific methods of care and cultivation have made possible today's success and created for this continent—a one-time wilderness—a world-wide reputation for the steady production of a superior quality of the king of all fruits—the apple.

While realizing that our north temperate zone leads the world in producing the best apple, it behooves us not to overlook the fact that because of the practically unlimited field of production, there is vital need of creating a market to care for the rapidly increasing output.

The first requisite in the markets we already have is to increase the consumption of our product therein, and to do this, publicity in some form or other must be had to bring the buyer in touch with the product we have to sell. This is unalterably true in extending our market to new fields. The problem, therefore, resolves itself into what is the best and least expensive form of publicity, which predicates that whatever plan is adopted, it must be both practical and effective.

Experience, the true test, has demonstrated that the exposition, whereby the products of the country can be assembled and displayed, gives the best results. It

J. M. Schmeltzer, Secretary

Hood River Abstract Company

Hood River, Oregon

ABSTRACTS INSURANCE CONVEYANCING

LADD & TILTON BANK

Established 1859 *Oldest bank on the Pacific Coast*

PORTLAND, OREGON

Capital fully paid $1,000,000
Surplus and undivided profits $600,000

Officers:

W. M. Ladd, *President*
Edward Cookingham, *Vice President*
W. H. Dunckley, *Cashier*
R. S. Howard, Jr., *Assistant Cashier*
J. W. Ladd, *Assistant Cashier*
Walter M. Cook, *Assistant Cashier*

INTEREST PAID ON TIME DEPOSITS AND SAVINGS ACCOUNTS

Accounts of banks, firms, corporations and individuals solicited. Travelers' checks for sale, and drafts issued available in all countries of Europe.

LESLIE BUTLER, President
F. McKERCHER, Vice President
TRUMAN BUTLER, Cashier

Established 1900
Incorporated 1905

Butler Banking Company

HOOD RIVER, OREGON

Capital Fully Paid, $50,000 Surplus and Profits are $45,000

INTEREST PAID ON TIME DEPOSITS

We Give Special Attention to Good Farm Loans

If you have money to loan we will find you good real estate security, or if you want to borrow we can place your application in good hands, and we make no charge for this service.

THE OLDEST BANK IN HOOD RIVER VALLEY

NEW RESIDENTS

We are always pleased to extend courteous assistance to new residents of Hood River and the Hood River Valley by advising them regarding any local conditions within our knowledge, and we afford every convenience for the transaction of their financial matters. New accounts are respectfully and cordially invited, and we guarantee satisfaction. Savings department in connection.

HOOD RIVER BANKING AND TRUST COMPANY

HOOD RIVER, OREGON

Ship Us Your

APPLES FOR STORAGE

ST. LOUIS has a large local market for choice Box Apples. Also the most central and quickest distributing point for East and South

Mound City Ice & Cold Storage Co.

St. Louis, Missouri

Bonded modern cold storage house. Capacity two million cubic feet cold storage space. Cars from all railroads unloaded direct into our coolers. Prompt service. For five years we have carried on storage in our coolers 90 per cent of all Box Apples shipped to New Orleans market. We also carried on storage 95 per cent of all the apples exhibited at the World's Fair at St. Louis in 1904.

Packers, Fruit Growers, Associations and Shippers, Write Us for Storage Rates, Etc.

Reference: State National Bank, St. Louis

not only brings the buyer in touch with the grower, but meets every essential for effective and lasting publicity. Further than this it creates a stimulus in the industry itself among the growers themselves as to the best methods for the growing of better fruit and marketing the product, and among those who are seeking information with a view to engage in the business, as to the resources of the country and the profits to be had with a commercial orchard. Serving as it does this triple function, the grower can well afford to give the necessary time and labor to exhibit his product, and the commercial interests can likewise afford to give the necessary financial backing to make the enterprise possible, while the two working together will make it a success.

It has been truthfully said by Sir Wilfred Laurier, "The twentieth century belongs to Canada." With the marvelous development of the great wheat fields of the Central Provinces, attention is being more and more turned to the utilization of the splendid fruit areas of the Eastern and Western Provinces, which eventually will take equal rank with the cereal-producing regions in point of wealth-production from the soil.

To aid in the development of our fruit growing possibilities Vancouver, the commercial metropolis of British Columbia, most cordially invites all of her sister provinces and the United States to join with her in holding the first Canadian National Apple Show in the beautiful Gateway to the Pacific. The dates selected are October 31 to November 5, inclusive.

Vancouver has taken upon herself the financial burden of giving to Canada her first national apple show and to the world an exposition, the equal in every respect to the great exhibitions heretofore held.

The date of the Vancouver show (October 31 to November 5) has been arranged by the management so as to give one week from its close to the opening of the Spokane exhibition, thus allowing ample time for the growers who desire to do so, to exhibit at both shows, by the removal of their Vancouver exhibit to Spokane or by previously arranging for two separate and distinct

APPLE STORAGE

300,000 BOX APPLES CAPACITY

PLANTS AT

Vincennes, Indiana Flora, Illinois Seymour, Indiana Washington, Indiana

We buy and ship Apples on our own account. Make reasonable advances to storers. Insurance rates low. Will make a specialty of distribution for account of growers or associations.

EBNER ICE & COLD STORAGE CO.

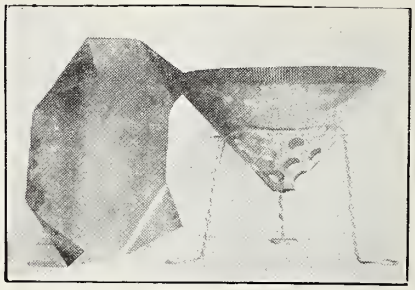
Main Office:

VINCENNES, INDIANA

F. H. SIMPSON, Secretary and Manager Apple Department J. L. EBNER, President

THE HEATER THAT MAKES GRAND VALLEY FAMOUS

Millions of dollars worth of fruit has been saved by Ideal Coal Heaters. Big crops were saved when the temperature fell as low as 16 above zero in blooming time. Sixty-five thousand Ideal Coal Heaters were used in Grand Valley alone. Many thousands are sold for spring delivery. Our Jumbo Ideal burns all night without refilling. Ideals are reservoir coal heaters, self-feeding and self-cleaning. You pay for Ideals no matter what heater you use. If you use none you pay for Ideals many times. Better use them. We have sold many of our old customers heaters this year.



QUICK HEAT GREAT VOLUME
GREAT OUTWARD RADIATION BIG CROPS SAVED
VERY SMALL EXPENSE

Send 50 cents for sample. Reliable agents wanted. Write today.

The Ideal Orchard Heater Co. Grand Junction, Colorado

exhibits. To those who can do so—the larger growers—the plan of arranging in advance for two exhibits, one at Vancouver and one at Spokane, will undoubtedly be more profitable as it will enable them to realize fancy prices for their exhibits at both shows, especially for the prize-winners. However, it must be borne in mind that to the small growers who can furnish but a single entry in any class, a prize-winning entry becomes exceedingly profitable when placed at two shows, regardless of the fact that it can be sold but once. Again, a careful scrutiny of the premium list for the Canadian exhibition will show that more and better cash prizes will be paid than ever before offered by any national or international apple exposition. Also, that it is going to pay the commercial orchardists of Canada and the United States to make exhibits at Vancouver, because the Canadian show is going to be extensively exploited in England, which is a desirable market for the surplus output of our orchards.

Every courtesy and consideration will be extended by the management to the exhibitors, who will be made to feel at home and to enjoy their visit to the most beautiful city in America. Special care will be taken to expedite the movement of exhibits to and from the show. That fair and impartial treatment will

Buy Your Orchard Heaters Now

Everybody will want orchard heaters next spring; it has been demonstrated that orchard heating is profitable, and while heaters may not be needed next spring, it is well to be prepared for any emergency.

The National Orchard Heaters have been tested and have made good. Our sales are very great among those who have seen the heaters in operation. We know we will be swamped with orders in late winter and early spring, and therefore make special inducements for you to order now. Write us at once about your orchard, and we will tell you how many heaters you will need and the cost of same. Don't wait until you need the heaters—it will be too late then. Write now, and save money by ordering early.

National Orchard Heater Co., Grand Junction, Colorado

RICHARDSON
Orchard Heater

Burns Perfectly crude oil, fuel oil, distillate oil or heavy residium.

Never Fails to Burn during high winds or snow storms.

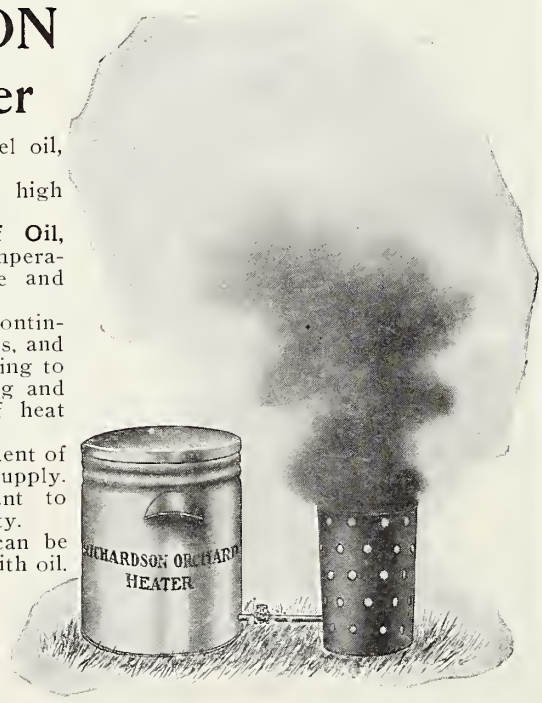
Economical Consumption of Oil, regulated according to the temperature to be controlled. Simple and effective.

The Hot Burner keeps up a continuous combustion as the oil drops, and with the oxygen of the air rushing to the burner, consumes everything and makes the greatest amount of heat and smoke possible.

Large Oil Reservoir, independent of burner, will give a season's oil supply. Always ready. Very important to have each Heater ready for duty.

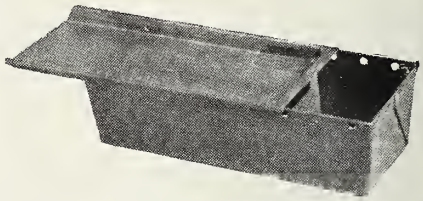
Emergency—Coal or wood can be burned alone or in connection with oil.

(Patent pending)



Geo. C. Richardson
1200 East Eleventh Street
KANSAS CITY, MISSOURI

The Hamilton Reservoir Orchard Heater



Acknowledged and proven, after three years' most successful use, the **standard of efficiency** and the KING of all heaters.

Millions of dollars' worth of fruit saved from spring frosts by its use.

Most wonderful invention of the age, and the fruit grower and vegetable producer reap the benefits.

The "Draw the cover and regulate the fire" principle has won, and we offer you the very best your money can buy, with absolute protection to your crops. A quarter of a million heaters in the hands of inexperienced growers last spring has proven every claim we have made. Get in line with other progressive growers and protect your crops from frost. Write us today for full information and for the story of "Frost Fighting," which will interest you.

The Hamilton Reservoir Orchard Heater Co.
Grand Junction, Colorado

be accorded exhibitors is guaranteed from the fact that the chief judge of the exhibits will be Professor H. E. Van Deman, of Washington, D. C., recognized as the leading pomologist of America in differentiating and judging deciduous fruits. Mr. Van Deman has had charge of the judging of the horticultural exhibits of nearly all of the world's expositions held in America, and is an authority on the interpretation of the rules and regulations of the American Pomological Society, which has promulgated the only recognized standards.

To the fruit growers of America, the board of management of the First Canadian National Apple Show most cordially invites you to come to Vancouver, the welcome city, and demonstrate to the world how near you can come to perfection in the production of the king of fruits—the apple. Vancouver will welcome you, protect you while within her gates and bid you Godspeed at parting.

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DONALDSON FRUIT COMPANY TO HOLD EXHIBITION

L. S. Donaldson Company are now alloting space for their 1910 fruit exposition, to be held in Minneapolis during November and December. No effort or money will be spared to make this the most attractive and beneficial fruit exhibition ever displayed under one roof. The entire window space of their large establishment will be devoted to the various fruit exhibits. In addition to the window display, fruit exhibits will be maintained on their exposition floor during November and December. In conjunction with the fruit display they will open and conduct during October, November and December the largest and most interesting pure food exposition ever seen in the Northwest. Over 30,000 square feet of space will be devoted to the exposition. This combined attraction will afford a rare opportunity for commercial clubs, fruit growers associations and others of various fruit growing sections to introduce their products and resources direct to the many thousands who will visit the Donaldson Fruit and Pure Food Exposition. They invite the best fruit valleys and districts that are in a position to make a creditable showing to participate in this extraordinary event. There will be no direct charge made for space. Each district will be alloted window and floor space and location according to the size of its exhibit. The expense of installing and conducting the exposition will be defrayed entirely from the profits made on the sale of fruit. Several carloads of fruit will be purchased from the various fruit sections represented, and will be sold during the exhibition.

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CEMENT COATED NAILS LEAD IN TEST. In the test here given, made by an eminent engineer, the nails were driven two inches into the same stick of white pine, then records made of the force necessary to start and pull each one-half inch. Note that the coated nail, after being started and pulled one-half inch still holds more than either the cut nail or plain wire nail did originally, after being pulled one inch, or half the driven length, holds more than the plain wire did originally, and with only one-half inch remaining in the wood has still holding power sufficient to stand considerable strain.

Ten-penny cement coated nail, 11 gauge, $\frac{12}{100}$ inch diameter—Adhesive resistance at 2 inches, 400 pounds; at 1½ inches, 330 pounds; at 1 inch, 250 pounds; at ½ inch, 150 pounds.

Ten-penny common wire nail, uncoated, 9 gauge, $\frac{148}{1000}$ inch diameter—Adhesive resistance at 2 inches, 200 pounds; at 1½ inches, 150 pounds; at 1 inch, 110 pounds; at ½ inch, 70 pounds.

Ten-penny cut steel nail, 10½x5½ gauge, $\frac{127}{1000}$x$\frac{200}{1000}$ inch diameter—Adhesive resistance at 2 inches, 320 pounds; at 1½ inches, 140 pounds; at 1 inch, 60 pounds; at ½ inch, 0 pounds.

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THE COMMISSION MERCHANT.—Since a large percentage of the products of the farm, orchard and dairy is handled on commission, the commission merchant is, and of necessity must always be, an important factor in the commerce of the world.

Realizing the need for assurance of reliability and responsibility of the market receivers, leading merchants in the produce line years ago conceived the idea of forming an association that would undertake to give that assurance to growers and shippers. Thus in 1893 came into existence an organization called the National League of Commission Merchants, and which now has a membership comprising 385 commission merchants distributed among twenty-eight cities, leading produce markets in the Union, extending from, and including Denver to Boston, and New Orleans to Minneapolis.

The merchants belonging to this league are those whose business methods, financial responsibility and personal integrity are determined and vouched for by the association. By its rules the league acts as arbiter for, and affords protection to, fruit and vegetable growers, and shippers of poultry, eggs, etc., and co-operates with farming communities and trucking and shipping associations in the adjustment of transportation and other evils incidental to the produce trade.

To bring within its sphere of protection growers and shippers not represented in any of the various markets by its members, the league, at its headquarters at Buffalo, is distributing to those desiring them, small booklets giving reference to houses who are directly charged by the association with fairness and honesty in their dealings with shippers. The league's protection is such that all shippers should have when consigning their goods to distant markets.

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NORTHWESTERN FAIRS

August 30 to September 3—Snohomish County Agricultural Association, Everett, Washington, Louis H. McRae, secretary.

September 5-10—Portland Fair and Livestock Exposition, Portland, Oregon, F. A. Welch, secretary.

September 12-17—Oregon State Fair, Salem, Oregon, Frank Meredith, secretary.

September 19-24—Walla Walla County Fair Association, Walla Walla, Washington, R. H. Johnson, secretary.

September 19-25—Western Washington Fair, Seattle, Washington, Guy M. Richards, secretary.

September 20-24—Southwest Washington Fair, Centralia, Washington; G. R. Walker, secretary, E. C. Truesdell, racing secretary.

September 26 to October 1—Washington State Fair, North Yakima, Washington, Jno. W. Pace, secretary.

October 3-8—Spokane Interstate Fair, Spokane, Washington, R. H. Cosgrove, secretary.

October 10-15—Idaho Inter-Mountain Fair, Boise, Idaho, Will H. Gibson, secretary.

October 10-15—Lewiston-Clarkston Fair, Lewiston, Idaho, C. W. Mounts, secretary.

◈ ◈ ◈

Almost the whole world knows of Hood River as a place that produces the best fruits, and all of Hood River Valley should know, and could know, that there is one place in Hood River, under the firm name of R. B. Bragg & Co., where the people can depend on getting most reliable dry goods, clothing, shoes and groceries at the most reasonable prices that are possible; try it.

C. H. WEAVER & CO.

Established 1863

129 South Water Street

CHICAGO, ILLINOIS

APPLES, PEARS, PRUNES IN CAR LOTS

We are in a position to handle to advantage a good, large Box Apple account. Write or wire.

W. J. Henry Produce Co.

(Incorporated)

80 Wayne Street

DETROIT, MICHIGAN

WE have storage space for about one hundred thousand boxes. We are in a position to make advances if required. Should we sell for you we charge you regular commission. If you sell we charge you no commission. Look us up.

Watch for Our Full Page Advertisement Next Month

Showing our new light-weight Giant and Challenge Outfits and our new Pony Power Sprayer, which surpasses anything heretofore offered for spraying. Write for our beautiful new catalogue, ready for mailing October 1.

BEAN SPRAY PUMP CO.

SAN JOSE, CALIFORNIA

East of the Missouri River address us at Cleveland, Ohio

How Your Trees are Packed

MAIN PACKING DEPARTMENT, OREGON NURSERY COMPANY

A section of our large packing house, showing department where the different kinds and varieties of trees are assembled for each of the thousands of orders we ship every season.

This illustrates our boxing and billing department. The trees are carefully packed in boxes, with damp shingle-tow about their roots. Trees packed in this manner have arrived in the pink of condition after being several weeks in transit.

BOXING AND BILLING DEPARTMENT, OREGON NURSERY COMPANY

Visit Our Plant During Packing Season

and you will find from seventy-five to one hundred men busily inspecting each and every tree from root to branch, grading the trees according to uniformity of height, assembling the different kinds and varieties to fit the requirements of each order, grouping the scores of orders for each and every locality, and having them carefully and properly packed to insure their delivery to **you** in FIRST-CLASS CONDITION.

Mr. PLANTER, it is one thing to call at your home or office and solicit your order for trees, but it is quite another, after perhaps having received your order, to be in a position to assure you that your trees will be delivered in first-class shape. We have thousands of dollars invested in just the PACKING AND SHIPPING FACILITIES of our business. We don't solicit your business and then turn your order over to some one else to fill it. We'd like you to visit our plant and see for yourself—visitors are always welcome. Whether your order is small or large, we give it every attention to insure satisfaction when you get the trees.

Before ordering the trees you want for this fall or next spring's planting drop us a line and get our large illustrated catalog (free). It contains much valuable information to planters and will help you.

Oregon Nursery Company

Earnest, Progressive Salesmen Wanted Orenco, Oregon

CONDITION OF FRUIT TRADE IN BERLIN MARKET

FROM THE FRUIT GROWER, SAN FRANCISCO, CALIFORNIA

ENGLAND and Scotland use great quantities of apples from the United States, and still greater quantities from Canada, but only the smallest quantities of our fruit ever reach the Continent of Europe, writes F. A. Waugh in The Country Gentleman. This is a condition with which all fruit growers in America are more or less familiar. It is commonly explained by the presence of tariffs and other trade restrictions in Germany and France. Such legal barriers undoubtedly exist, but a brief yet careful study of the situation in Germany convinces me that it would be a fairly easy matter to break down these barriers, or through them, and land large quantities of our good American apples in these Continental markets. Perhaps other fruits could be sold here, especially oranges.

The condition of the fruit trade in Germany is something which an American can hardly believe till he sees it. Here we are in Berlin, the capital city of one of the greatest and most highly civilized nations of the world, the largest and finest city, and the wealthiest on the Continent of Europe—yet the fruit marketing here would be a disgrace to Guthrie, Oklahoma, or Plattsburg, New York. Leaving room for small and wholly unimportant exceptions which I may have overlooked, there is no such thing as a cold-storage warehouse for fruit, and absolutely no system of packing, no system of grading or marketing, and no refrigeratior transportation. There is a wholesale fruit market in Berlin, but it is a very crude and primitive affair. Imagine a city like Chicago depending for its supply of apples at this time of the year (March) on what the neighbor-

A splendidly referenced, graduate horticulturist, practiced on irrigated and nonirrigated lands, desires a position.
Address A. G.
Care "Better Fruit"

WANTED

By an experienced orchardist (from Wenatchee, Washington), position as superintendent of a large non-irrigated or irrigated fruit ranch; experienced in planting out and controlling ten-acre tracts, pruning, spraying, picking, packing and marketing fruit. Thoroughly up in raising the most profitable truck between trees for early market. Address A. G. Y., "Better Fruit," Hood River.

QUAKER NURSERIES

We have a large stock of YELLOW NEWTOWN PIPPINS, SPITZENBERGS, JONATHANS, WAGENERS, ROME BEAUTIES, and all of the leading varieties of apples.
We also carry a heavy line of BARTLETT, COMICE AND BEURRE D'ANJOU PEARS.
A general stock of peaches, such as EARLY CRAWFORDS, ELBERTAS, LATE CRAWFORDS, FOSTERS, TUSCAN CLINGS, PHILLIPS, MUIR, EARLY COLUMBIA, Etc.
Small fruits in great abundance, STRAWBERRIES, BLACKBERRIES, RASPBERRIES, DEWBERRIES, GOOSEBERRIES, CURRANTS, GRAPES.
H. B. PATTERSON, MEDFORD, OREGON,
Special Selling Agent for Southern Oregon.
C. F. LANSING, Salem, Oregon

NURSERY CATALOG

New, handsame, instructive, up-to-date, describing
Fruit and Ornamental Trees, Shrubs, Vines, Roses, Berry Plants, etc.
Free on request. Write naw, mentioning this paper.
J. B. PILKINGTON, Nurseryman, Portland, Oregon

Hood River Valley Nursery Company

Route No. 3, Box 227 HOOD RIVER, OREGON Phone 325X

Will have for fall delivery a choice lot of one-year-old budded apple trees on three-year-old roots, the very best yearlings possible to grow. Standard varieties from best selected Hood River bearing trees—Spitzenbergs, Yellow Newtowns, Ortleys, Arkansas Blacks, Gravensteins, Baldwins and Jonathans. All trees guaranteed first-class and true to name. Start your orchards right with budded trees from our nursery, four miles southwest from Hood River Station.
WILLIAM ENSCHEDE, *Nurseryman* H. S. BUTTERFIELD, *President*

ARE YOU INTERESTED IN BEE KEEPING, POULTRY AND GENERAL FARMING?

No section of the United States offers better opportunties for those interested in the subjects mentioned than the West. The supply does not begin to equal the demand. Prices are good, profits exceptional. If you want to know more about the opportunities in the West and Northwest, use the coupon. The Pacific Monthly Company,
Portland, Oregon.
Enclosed find 25 cents. Please send three recent numbers telling about bee keeping, poultry raising, etc.
Name_____
BF Address_____

Columbia and Okanogan Nursery Company
WENATCHEE, WASHINGTON
Prapagators and Grawers af
The Cleanest, Thriftiest, Best Rooted Nursery Stock in the World
WHOLESALE AND RETAIL
Send us yaur arder
Supplying Large Commercial Orchards a Specialty

Quality Stock

That is our aim: to grow as fine a grade of stock as can be grown. We are particularly favored by Nature for so doing. Good rich soil, plenty of water (for we irrigate), and lots of dry, sunshiny weather. Best natural combination on earth. But on top of this we keep continuously cultivating. This keeps the soil well loosened up, giving the fine, fibrous roots every chance to grow. This is why our trees have a root system which has made them justly famous, and why they are unexcelled anywhere.

Quality Stock is being sought after more and more by discriminating buyers, for they realize they cannot afford to plant anything but the best, and we are prepared to meet their demand.

Write to us and if we have a salesman in your vicinity we will have him call on you.

Obey that impulse and write **today.**

YAKIMA VALLEY NURSERY COMPANY
Toppenish, Washington
MORE SALESMEN WANTED

SOMETHING EXTRA FANCY QUALITY
SPRING VETCHES

Specially recleaned, analyzed and guaranteed to be absolutely fresh, pure seed of high germination and in perfect condition for sowing. We stand back of this statement. Write for sample, and for **Prompt Shipment** send your orders to
CHAS. H. LILLY CO.
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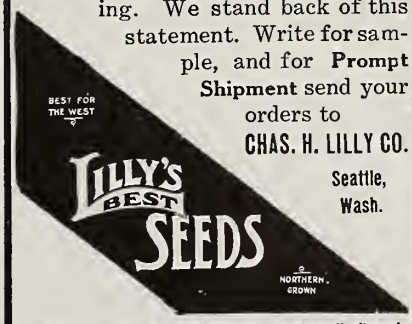

For over a decade the leading seedmen of the Northwest

C. F. WHALEY
Originator of the Ballygreen System of Certified Pedigree Trees

Selected Pedigree Trees

BALLYGREEN SYSTEM

WHAT is the Ballygreen System of **pedigree trees?** It is a perfected system of propagating fruit trees which makes it certain that the planter when ordering will get the kind of trees he buys. In fact, it is **fruit insurance.** Ballygreen Nurseries keep a **tree book** record of the buds and scions and the orchards and trees from which they are cut; they **certify to the pedigree of trees** when delivering them. Ballygreen Nurseries are well organized, know what to do and how to do it, and are the **first to put into practice the system of certification of pedigree trees.**

THEY INVITE CORRESPONDENCE; WRITE FOR PRICE LIST

BALLYGREEN NURSERIES Hanford, Washington

FRUIT GROWERS, YOUR ATTENTION!

Royal Anne, Bing and Lambert cherry trees; Spitzenberg and Newtown apple trees; Bartlett, Anjou and Comice pears, and other varieties of fruit trees.

A. HOLADAY MONTE VISTA NURSERY SCAPPOOSE, OREGON

EMMET NURSERY

THE LARGEST NURSERY PLANT IN IDAHO

OUR SPECIALTIES

PEACHES—CHERRIES—DWARF PEARS

A fine stock of all standard varieties of Apples, Fruit and Ornamental Trees, suited for the Northwest.

CHARLES P. HARTLEY, Proprietor EMMETT, IDAHO

Winfield Nursery, Winfield, Kansas

GROW TREES OF QUALITY

Their new work, Progressive Horticulture, fully illustrated, describes trees of quality in the making

RUSSELLVILLE NURSERY COMPANY

H. A. Lewis, Proprietor Montavilla, Oregon

A progressive and up-to-date nursery. A full line of fruit and ornamental trees. Growers of fine nursery stock. Varieties of special merit. Careful and reliable attention given to filling every order with first-class trees and plants. Satisfaction guaranteed. Nursery at Russellville, suburb of Portland. Take Montavilla car. Nursery one mile east of terminus.

THE CASHMERE NURSERIES

Established 1906

LOCATED IN THE WENATCHEE VALLEY

GROWERS OF CHOICE NURSERY STOCK

We can supply buds from bearing trees for budding.

G. A. LOUDENBACK CASHMERE, WASHINGTON

Montana Fruit Growers

AND OTHERS OF HIGH ALTITUDE

WE are now ready to book your orders for fall and spring delivery of McIntosh Red and Wageners. For Northwest fruit growers in general, a full stock of all standard varieties—Spitzenbergs, Jonathans, Winesaps, Rome Beauties, etc., and all other kinds of fruit trees and shrubbery.

THIRTY-ONE YEARS IN BUSINESS

Milton Nursery Company

A. Miller & Sons, Incorporated Milton, Oregon

ing farmers could haul in on wagons, and what could be brought on canal boats from lake points or from down state orchards—all this fruit to come from hay-mow storage—and imagine that the only way of selling it is to retail it off the canal boats, and you have a rough comparison with the situation here.

The bulk of the apples are now coming from Italy, Austria, Hungary and Bohemia, with very scattering supplies from other parts, including the United States. Italy sends the best, and perhaps the largest, supply, which is a surprise to me. Small quantities come from Southeastern Germany. Most of these apples arrive on canal boats. The boats are large and deep. One of the boatmen told me that his usual load of apples was 300,000 pounds, equal to 180 tons American weight, or roughtly, 2,400 barrels. The boat is divided athwart into bins, and the apples are poured into these bins about ten feet deep. When the canal boats reach Berlin they go to a certain section of the Spree River, over against the shadow of the Reichstag building, and tie up there, looking for customers. The fruit is picked up by hand into wicker baskets of any size and shape, passed up by hand to the boat deck, carried up on a man's back to the street above and loaded into a wagon. Some of them are sold in two to five-cent lots to consumers; some are sold fifty to 100 pounds at a time to street vendors, who take them in their dog-drawn carts, while some of them are drawn with good two-horse teams a mile and a half through the center of the city to the wholesale market, where they are sold at auction or in small job lots at private sale. As I said before, it is a crude business organ-

WHEN ARE YOU COMING WEST?

Fortunes are being made now by hundreds on small fruit ranches in the West. If you are interested in the famous fruit section about Hood River, Ashland, Medford and other equally famous sections, send in the attached coupon. It's the soil, climate, and scientific culture that makes Oregon and Washington apples famous.

The Pacific Monthly Company,
Portland, Oregon.

Enclosed is 25 cents, for which please send me three recent numbers about famous fruit sections of the West.

Name_____

BF Address_____

True-to-Name Nursery

Offers for fall 1910 a complete line of nursery stock, including all the leading commercial varieties adapted to the Northwest. Our trees are all grown on the best whole roots and all buds and scions used are selected from bearing and tested trees, which insures not only early bearing, but trees true to name.

Write us for prices before placing your order. We give a one-year subscription to this paper with every order of $25.00 or more. Address

TRUE-TO-NAME NURSERY

Phone 2002K Hood River, Oregon

PORTLAND WHOLESALE NURSERY COMPANY

Rooms 1 and 2 Lambert-Sargeant Building

Corner East Alder Street and Grand Avenue

PORTLAND, OREGON

WRITE FOR FALL LIST—ISSUED OCTOBER 1st

TREES TRUE TO NAME. THE SILVA-BERGTHOLDT CO. NEWCASTLE, CALIF. PLACER NURSERIES

THE SILVA-BERGTHOLDT COMPANY

184 Orchard Street Newcastle, Cal.

NURSERY SALESMEN

Drop us a line for information regarding our splendid proposition.

Big commissions paid weekly.

OUTFIT FREE

SALEM NURSERY COMPANY

SALEM, OREGON

A Reputation to Sustain

VINELAND NURSERIES COMPANY

Propagators of

RELIABLE NURSERY STOCK

All stock budded from bearing Trees, Fruit and Ornamental

CLARKSTON, WASHINGTON

THE NEW WEST

Is full of surprises. It is no longer the land of cowboys, coyotes, blanket Indians. Instead of illimitable sagebrush desert, one finds fruit laden orchards, heavy headed grain, green meadows and alfalfa fields. It's the best of God's out-of-doors country—clear skies, pure air, snow clad mountains, waterfalls, odorous pine woods. Read all about it in The Pacific Monthly, magazine of the West.

The Pacific Monthly Company,
Portland, Oregon.

I am interested in the New West. Send three recent numbers of your magazine, for which I enclose 25 cents.

Name_____

BF Address_____

ization, and reminds us of the way our grandfathers used to do.

The following grades of apples can be pretty distinctly made in the Berlin trade:

1. "Paris Apples"—Grown on walls mostly in the neighborhood of Paris. There is only one variety now in the markets, which I take to be White Winter Calville. These come in boxes holding two dozen apples, each fruit wrapped in tissue paper and packed in cotton batting and fine excelsior. These apples retail at twenty-five to forty cents each, and it goes without saying that the market is very limited. I have not tried them myself, but they do not look nearly so good as the California Newtowns seen in the same stores.

2. American Box Apples—These are always called "California apples," though most of them come from Oregon. Even some very inferior Ben Davis which I saw boxed were selling as California apples. This is all the name they have—no destinction being made between Ben Davis and Newtowns. In Hamburg I saw a box of very poor Winesaps marked "California Aepfel," though the printed label on the box said Yakima Valley. I have seen a few good Western Newtowns, though nothing fancy, and very little first grade. Most of the box apples here would not be tolerated in Albany or Columbus.

3. "American Apples"—Any apples coming from across the water in barrels are called American apples or Baldwins (to distinguish them from the "California" apples in boxes). The retailers are quite proud of these, and often advertise "Genuine American Apples," usually meaning second grade Maine Ben Davis. At least three-quarters of the barrel apples I have seen have been Ben Davis; and in the whole lot not one barrel of first-grade stuff.

4. Italian Apples—These seem to have a reputation equal to or above the American fruit. I can honestly say that the offerings in Berlin for the last month would place the Italian apples 100 per cent above the American barrel stock.

STRAWBERRY PLANTS

Clark's Seedling

THE KIND THAT MADE HOOD RIVER FAMOUS

Rates:

100 plants $1.25
1,000 plants 5.00
5,000 to 10,000 plants at $3.00 per thousand

Large orders at special prices

THE QUALITY OF OUR PLANTS IS THE BEST

F. B. KIMBALL

Successor to

E. L. KLEMER

Hood River, Oregon

Cupid Flour

Has same standing in the Flour trade that Hood River Apples have in the Fruit trade.

MADE BY

HOOD RIVER MILLING CO.

LAYRITZ NURSERY

Victoria, British Columbia

Headquarters for

CHOICE NURSERY STOCK

in British Columbia

Cox Orange Pippin

The fancy dessert apple of the very highest quality our specialty

PRUNE TREES AT 10c

For a limited time we offer first-class yearling prunes at 10 cents, fine stock. You planters who will set, now is the time to save money and secure best of stock. Order now, receive the benefit of this special rate before it is discontinued. We carry a full line of all stocks.

CARLTON NURSERY CO.

Carlton, Oregon

GET CATALOG AND PRICE LIST

420 Acres Devoted to Nursery Purposes

THE WOODBURN NURSERIES

Established 1863 by J. H. Settlemier

Grower of Choice

Nursery Stock

F. W. SETTLEMIER

Woodburn, Oregon

Lafayette Nursery Co.

Growers of Standard Sorts and Commercial Varieties

APPLE, PEAR, PEACH, CHERRY, ETC.

Remember, the Root System is one of the most important factors. Ours are unsurpassed.

Regardless of your wants, you cannot afford to place your order until you hear from us. Write today.

Address: LAFAYETTE, OREGON

Mention "Better Fruit"

KELLY'S TREES ARE TRUE TO NAME

2,000,000 TREES 2,000,000

For fall and spring planting. 350,000 Winesap, 350,000 Jonathan, 200,000 Rome Beauty, 100,000 Delicious and all other leading varieties in Peach, Pear, Plum and Cherry

Before Placing Your Order Write to

Tim Kelly, Proprietor Wapato Nursery, Box 197, Wapato, Washington

There are many varieties, all anonymous, but two sorts predominate in the best grades. One is a yellow fruit with red cheeks, looking much like Maiden Blush; the other is a large, oblate, very thick-skinned russet apple, with a half sweetish flavor.

5. Common Apples—The great bulk of the trade comes in this grade, which consists of the canal-boat stock, mixed varieties, from all over the country. Take a carload of Ben Davis culls picked up in Missouri, loaded loose into a cattle car and shipped to New Orleans and sold on the levee for what they will bring, and you have a first-rate parallel for this trade.

6. "Mus" Apples—The German way of making apple sauce is to boil the fruit down to a thin watery pulp and strain out the seeds, cores and skins. This resulting "goo" is called "mus," which name completely satisfies the American ear. For mus anything that ever fell off an apple tree will do—worms not barred. So here we recognize a special grade of mus apples, and we drive a big trade in them, too.

As to tariffs, I have no official figures, but one of the dealers told me that the regular tariff is 1.60 marks per 100 pounds, which would amount to a trifle over fifty cents per barrel. This is certainly high enough, though it would amount to very little on first-grade fruit. In fact, I figure, by the most careful comparisons I am able to make, that medium-grade American apples in barrels ought to sell for enough here to net the shippers $2.50 to $3.50 a barrel off the docks in New York. The way the American markets have been recently this would not offer any great inducement to American shippers; but it is still a price at which apples can be profitably grown and handled. Apples good enough to box (and sell as "genuine Californias") would bring relatively a much higher profit. It looks as though it would be an easy matter to put up select Spitzenbergs, Newtowns and Jonathans from the States and cut the Paris fruit entirely out of its market at twenty-five cents or even fifty cents apiece.

Aside from the Paris box stuff, apples are retailed almost wholly by the pound. However, I will translate the figures as

If You Would Have Better Fruit Buy Better Trees

We have the trees and you will have the fruit if you place your order with us

SUNNYSIDE TREES

Are known all over the Northwest for their size, grade and quality. Our stock is proving superior in every respect, and our satisfied customers are advertising our trees in a most substantial way. Our years of experience in producing good stock in the past is helping us to grow better stock this season.

We are proud of our trees and we want you to see them growing in the nursery. The sight will surprise you if you have not seen our plant before. Our large, thrifty blocks of healthy, hardy trees make a picture you will remember when placing your order.

We grow the staple commercial varieties and guarantee them true to name. Our methods of packing and shipping are good and our prices are reasonable.

WRITE US FOR FURTHER INFORMATION

The Sunnyside Nursery Company, Inc.

Capital fully paid, $100,000.00 Main Office and Nurseries, SUNNYSIDE, WASHINGTON

C. F. COOK, *President and Manager* F. H. COOK, *Treasurer* F. J. NEWMAN, *Secretary*

Rogue River Valley Nursery Co.

Incorporated

Growers of Reliable Nursery Stock

BULBS OF ALL KINDS "WRITE FOR PRICES" SEEDS OF ALL KINDS

Fruit and Ornamental Trees, Shrubs, Roses, Vines, Palms, Small Fruits, etc.

Phone 1201 Office 25 West Main Street Medford, Oregon

nearly as I can into American units. For example, I paid twenty-five pfennigs for one pound of "Prinzen" apples (whatever they are) from Bohemia. I got four small apples, which would retail in Chicago or Albany at two or three for five cents. The four cost me six cents, Uncle Sam's money, or very nearly American prices. Good apples from Italy or the Tyrol cost four cents to six cents each; medium apples from Bohemia and Germany about two cents each; poorer grades, one cent each, or less. Small, hard Ben Davis from Maine bring two and a half cents to four cents each; good "California" apples bring three cents to five cents each. The best Western Newtowns I have seen were bringing five to seven cents each.

Apples are not eaten, raw or cooked, here to anywhere near the same extent as in America; and it is plain that something could be done toward educating the Germans in this regard. It seems also that a good, enterprising American agent could do a good deal toward overcoming the defects of the local marketing machinery. But, even as things stand, there is a big market here for American fruit, capable of taking quantities of our product at profitable prices.

RICHLAND NURSERY

Richland, Washington

FRUIT TREES

Complete stock of leading varieties of Apples, Pears, etc.

WRITE US FOR PRICE LIST

FREE

To 100 Fruit Growers

Who will write immediately, giving your dealer's name, we will give without cost to you an order to the dealer to deliver to you for try-out, one Barnett Picking Pail. Will save its price every day it is used. This offer is limited. Write today.

Barnett Picking Pail Co.

372-374 East Oak Street, Portland, Oregon

To the Shrewd Business Man

A commercial orchard is a good income producer while you live, the best real estate agent you ever had when you are ready to sell, and a valuable asset to leave to your widow and orphans when you have reached the end of life's journey.

If an old reliable nursery is of any specific importance to the prospective planter, we kindly ask you to consider with us before buying your trees.

Albany Nurseries

(Inc.)

ALBANY, OREGON

Quality and Quantity Leave no Question as to Quotation

On our complete line of

FRUIT TREES
ORNAMENTAL TREES
AND SHRUBBERY

Salesmen wanted

Capital City Nursery Company

Salem, Oregon

The Shenandoah Nurseries

Offer for Fall and Winter Trade a Complete Assortment of

IMPORTED FRUIT TREE STOCKS

Mahaleb, Mazzard, Myrobolan and Pear

APPLE SEEDLINGS

American and French Grown. All Grades. Straight or Branched

APPLE GRAFTS

Piece and Whole Root

FINE STOCK OF GRAPES, CURRANTS AND GOOSEBERRIES

Strong, Well Rooted Plants

FOREST TREE SEEDLINGS

Carefully Grown and Graded

LARGE GENERAL STOCK

Send List for Prices

D. S. LAKE, Proprietor **Shenandoah, Iowa**

When you get to Hood River stop at the

MT. HOOD HOTEL

Trains stop directly in front of hotel. Bus meets all boats

Automobile service daily for Cloud Cap Inn during months of July, August and September

PROBLEMS SURROUNDING THE SHIPPING OF FRUIT

Continued from page 31

A large cold storage plant has been erected recently at Springfield, Missouri, by the St. Louis and San Francisco Railroad Company, to cool bananas in cars in transit. The plant consists of four tracks inside of a shed, with light insulation, each track holding ten cars. Large air ducts are carried along the top of this shed, and by means of canvas tubes the cool air is carried into a car at one end and taken out at the other, after passing through the fruit, on the principle mentioned in the preceding paragraph. This same plant may be used in the winter to raise the temperature of the fruit, when desired. Attempts have also been made to cool a car loaded with fruit by running it into a cold-storage room or shed. The first attempt of this kind known to the writer was made in Kansas City, Missouri, several years ago, but the result was not satisfactory, as the refrigerating capacity of the machinery in use was insufficient.

Several devices are in experimental use for rapidly blowing the air from the melting ice in the car bunkers through the fruit. In one method a fan, run by a small motor, blows the air over the ice in one end of the car. It passes through the fruit and is drawn out of the other end of the car by an exhaust fan. It is then carried back to the end from which it started in a pipe surrounded by water from the melting ice. The same air is used over and over again. No fresh air is admitted to the car. Provision is made for reversing the direction of the air current. Sometimes the ice is crushed and salt added, to produce a lower temperature.

Many experimental attempts have been made to apply chemical refrigeration to cars in transit by installing a refrigerating machine in a car in the train, and by pumping the refrigerating medium through the pipes in the cars. None of these devices, however, are in practical use at the present time.

It takes a long time to cool a carload of fruit thoroughly. The temperature of the fruit, the temperature of the surrounding air, the rapidity of circulation of the air around the packages, and the character of the packages and their contents are important factors in the rapidity of cooling. The air around the fruit

Paste for Labeling

"PALO ALTO" PASTE POWDER

added to cold water, instantly makes a beautiful smooth, white paste. Ready for immediate use at a cost of ten cents a gallon. No labor. No muss, No spoiled paste.

Paste Specialists

Robinson Chemical Works

349-351 Eighth Street
San Francisco, California

NORTH BEACH

QUEEN OF THE NORTHWEST RESORTS

Near the mouth of the Columbia River, on the Washington coast

THE PLACE TO SPEND YOUR SUMMER VACATION

Twenty-five miles of magnificent beach, level, compact and smooth

Many thriving and tidy communities, delightful hotel, cottage, tent and camp life. All the comforts of home and the healthful, invigorating recreation of the seaside—surf bathing, fishing, clam digging, beach bonfires, riding, racing, hunting, strolls and drives through picturesque wooded headlands.

REDUCED RATES

FROM ALL PARTS OF OREGON AND WASHINGTON

VIA

Oregon Railroad & Navigation Co.

Season Rate: From Portland, round trip, $4.00
Three Day—Saturday to Monday rate, $3.00

Purchase tickets and make reservations at City Ticket Office, Third and Washington streets, Portland, or inquire of any O. R. & N. agent elsewhere for information.

WM. McMURRAY, General Passenger Agent
Portland, Oregon

Hood River Nurseries

Have for the coming season a very complete line of

NURSERY STOCK

Newtown and Spitzenberg propagated from selected bearing trees. Make no mistake, but start your orchard right. Plant generation trees. Hood River (Clark Seedling) strawberry plants in quantities to suit. Send for prices.

RAWSON & STANTON, Hood River, Oregon

Buy and Try

White River Flour

Makes

Whiter, Lighter Bread

may be cooled quickly, but the package and its contents give up their heat slowly. Under the most favorable conditions in a cold-storage warehouse, the fruit in the center of a tight barrel of Bartlett pears stored in a constant temperature of 32 degrees Fahrenheit, may not cool to that temperature within four to seven days, if the fruit is about 80 degrees when packed, while similar fruit in a twenty-pound box, or in a slat bushel crate, may reach 32 degrees in from twelve to twenty-four hours.

A fruit wrapper retards the cooling. There may be a difference of ten degrees in temperature at the end of one day between a forty-pound box of unwrapped fruit and a forty-pound box of wrapped fruit. The fruit wrapper, however, protects the fruit against bruising to such an extent that its usefulness for this purpose outweighs the disadvantages of slower cooling.

The air in a car of fruit that is cooled before shipment is comparatively dry and pure throughout the trip, in contrast with the moist, impure air in the car under ordinary icing. The quality of the fruit is therefore preserved to a greater extent when it is pre-cooled. It is a common impression that a cold temperature injures the quality of fruit. This is not necessarily the case. The flavor of fruit from cold temperatures is not always good, but the impaired quality is generally caused by the absorption of impure odors while the fruit is warm. The air in a closed car, under ordinary icing, is charged with the gases given off by the hot fruit, but when it is cooled before shipment both respiration and transpiration are retarded, and the air of the car is comparatively dry and pure.

Another advantage of pre-cooling is that the grower can allow the fruit to develop a high color and a fine flavor on the tree. Under the present method of handling, quick-ripening fruits like the peach and the plum, that are shipped long distances, have to be picked when partly developed in order to protect them against the ripening that occurs in transit. The quality of the fruit is not developed, and it arrives in market with an insipid flavor, giving a region in which this practice is followed a reputation for fruit of poor quality.

Cooling before shipment is likely to be followed by unsatisfactory results in fruits that decay in transit from molds, unless the grower and the packer improve the methods of handling. These diseases are directly connected with the rough handling of fruit. Many of the susceptible oranges, for example, develop

ANNOUNCEMENT—The Western business of the American Sprayer Co. will now be handled by our branch office at Portland, which is in direct charge of our Mr. J. D. Wallace. The demand for

Wallace Peerless Power Sprayers

has every year far exceeded the supply; but we hope to be able to come nearer meeting the demands for 1911 than ever before. The fact that the Peerless is the **only sprayer having the Wallace Patent Pressure Regulator and Load Controller** is sufficient reason for its popularity, even if it had no other superior features. It furnishes an **absolutely uniform pressure** and works under **half the load** imposed on any other outfit. **Relief valves are dispensed with entirely.** You might as well have the best. It costs no more. **The Peerless is to all other sprayers as a parlor car is to a stage coach.**

Main Office and Factory: Minneapolis, Minnesota — **American Sprayer Co.** — Western Branch Office: Portland, Oregon

Burpee's Seeds that Grow

140 VARIETIES *ANY QUANTITY*

Plenty of stock in our 40,000 pounds

Growing Plants as season requires
All makes high grade
Pruning Tools
Garden Tools
Hose and Spray Nozzles
International Stock and Poultry Food
International Remedies
Incubators and Brooders
Everything for Building
Everything for Furnishing

Stewart Hardware & Furniture Co.
22,000 feet floor space Hood River, Oregon

Seeds

THE KIND YOU CAN'T KEEP IN THE GROUND
They grow, and are true to name.
Write for prices on your wants.
188 Front Street **J. J. BUTZER** Portland, Oregon
Poultry Supplies, Spray, Spray Materials, Fruit Trees, Etc.

GRASS SEED

Let us send you samples of our new vigorous crop grass seed—ready for immediate shipment. Lilly's Best Grass Seed is reliable, of high germination and recleaned by our up-to-date machinery. We have an expert grass seed tester who analyzes every sample sent us and every pound we offer for sale, not alone to comply with the pure seed law, but that we ourselves are satisfied that the seed is GOOD.

Send For Fall Catalog.

This is what one customer says:- *"I have used your grass seed and have had fine results. It was the nicest and cleanest seed I have ever used.*

A. L. GROSS
Starbuck, Wash.

For prices and samples Write
Chas. H. Lilly Co.
Seattle

BEST FOR THE WEST
LILLY'S BEST SEEDS
NORTHERN GROWN

For over a decade the leading seedmen of the Northwest

FOR FALL SOWING

Send Now for samples of our

"Diamond Quality"

RE-CLEANED

FARM & FIELD SEEDS

Grasses, Clovers, Vetches, Alfalfa, Grains

KNOW what you are Planting

We want every farmer in the Northwest to send for samples and prices of our "Diamond Quality" re-cleaned Farm and Field Seeds.

We want you to examine them, compare them with others, note their purity and weight.

Selecting, re-cleaning and grading may cost a little more, but it insures a good stand — bigger crops—more profits.

The big "Clipper" Seed Cleaners in our warehouse, with their "vertical blast" and air controllers are the highest type of fanning mill made, and our facilities for grading and cleaning seeds are unsurpassed.

SPECIAL MIXTURES
FOR
SPECIAL PURPOSES

Dry Land Pasture Mixture
Wet Land Pasture Mixture
Special Mixture for Burned-over Land
Cover Crops for Orchards

Tell us the nature of your soil and your local conditions. Over 20 years' experience right here in the Pacific Northwest qualifies us to advise you.

ASK FOR CATALOG NO. 200

PORTLAND SEED COMPANY

PORTLAND SEED COMPANY
PORTLAND, OREGON

THE EDGEMONT LID PRESS

For Apples and Pears

PATENT ALLOWED

Practical and satisfactory. The best on the market. Fruit growers send for our new illustrated booklet describing its operation. **Price $10.00** f.o.b. Hamilton.

MANUFACTURED BY

H. PLATT & SONS

COMO, MONTANA

S. E. Bartmess

UNDERTAKER AND LICENSED EMBALMER

For Oregon and Washington

Furniture, Rugs, Carpets and Building Material

Hood River, Oregon

J. F. LITTOOY

CONSULTING HORTICULTURIST

Orchard director, orchard schemes examined, orchard plans submitted, orchard soils and sites selected, nurseries visited and stock selected, values examined for farm loans, purchasing agent for land and orchard investments, acts as power of attorney in selection of Carey Act lands.

MOUNTAIN HOME, IDAHO

STORAGE

Ship your Furniture to us to be stored until you are located

Transfer & Livery Co.

Hood River, Oregon

rot in transit, while others that were cooled quickly begin to decay as soon as the fruit is removed from the car to a warmer air. If the shipper depends merely on colder temperatures in transit to overcome the effects of bad handling, the rots, instead of developing during the trip, develop later, and owing to these conditions the fruit trade becomes suspicious of all fruits shipped under refrigeration and the industry, as a whole, is injured.

The successful transportation of perishable fruit is a complex problem. It depends on the conditions under which the fruit is grown, the care in handling it, the conditions in transit, and the relation of these factors to the ripening of the fruit and to the development of decay. The losses in transit are the result of conditions, the responsibility for which may be shared by the grower, the shipper and the transportation company. A large proportion of the losses from decay is the inevitable result of handling a highly perishable type of product. Many of the losses are primarily orchard and packing house troubles, which can be overcome by improving the methods of orchard culture and of handling the fruit. A well-grown, perfect fruit is a fundamental requirement in successful transportation. Every fruit that is bruised does not necessarily decay in transit, but if a mold spore comes in contact with an abrasion in the skin, decay is the inevitable result

SPRAYING IN THE NORTH-WESTERN NEW YORK FRUIT BELT

While Oregon apple growers have long been noted for their thorough methods, their Eastern cousins are more and more realizing the value of intensive ideas in fruit culture, particularly in the spraying department.

A trip through the Niagara County fruit belt shows that the growers are thoroughly alive to the advantages of frequent and scientific spraying and are employing the most up-to-date apparatus for that work.

On the farm of Ira L. Dickinson, one of the most successful growers in this section, a Marvin Compressed Air Sprayer was at work. Said Mr. Dickinson:

"We Niagara County farmers are spraying more thoroughly than ever this year, and I believe one reason for it is that we have one of the best gasoline sprayers there is manufactured at our very door. The action of this sprayer is really wonderful. Inasmuch as the action is entirely by compressed air, no chemicals or corrosive liquids can come in contact with the pump or engine, so they practically last indefinitely. In fact, the packings and cylinders can never be cut out by corrosive solution, for it cannot touch them. This machine will spray out a 200-gallon tank at 150 pounds pressure in forty-five minutes, and it will keep up the pressure until the entire contents are sprayed out. Another splendid feature of the compressed air action is that it will not crystallize a lime and sulphur solution. Cost? That of operation purely nominal—about 50 cents a day for oil and gasoline. I think the machine costs a little less than the average."

Mr. Dickinson sells about $6,000 worth of fruit annually from his nineteen acres, so it is fair to say that he is a qualified judge.

The Marvin Compressed Air Sprayer is manufactured by E. P. Marvin, Jr., of Lockport, New York, who is also the inventor of it. Mr. Marvin says that he has had an increasing demand from his sprayer this year, a great part of which has come from the Pacific Northwest fruit sections, where its use has proved an unqualified success.

Do Not Delay Your Fall Planting

From

FRANCE HOLLAND JAPAN and the AZORES

Our Annual Importations are Now Arriving and

DOMESTIC STOCKS ARE BEING MADE READY FOR DELIVERY

BULBS
ROSES
FRUIT, SHADE AND ORNAMENTAL
TREES
STRAWBERRY
PERENNIAL & BEDDING PLANTS

A card of inquiry will bring a prompt, courteous reply and a copy of our New

AUTUMN CATALOG NO. 201

Let us help make your home brighter and your grounds more valuable and more attractive.

Early Orders Secure Select Reservations

Write Today

PORTLAND SEED CO.

PORTLAND, OREGON

THROUGH THE SOUTH SEAS WITH JACK LONDON

Jack London saw many strange sights in his year's cruise on the "Snark." Not all of us will have the opportunity of making such a voyage, but we can enjoy the enchantment and novelty of such a trip through the descriptions of such an artist as London. The series of travel sketches is running now. Send the coupon and get started right.

The Pacific Monthly Company,
Portland, Oregon.

Enclosed is 25 cents. Send three recent issues containing Jack London's South Sea articles.

Name_____

BF Address_____

if there are moisture and heat enough to start it into growth. The rots develop rapidly in transit when the temperature is not low enough to check their growth. Most of the decays develop during the first few days of the trip, while the car is warm and moist. They might be reduced to a minimum if the fruit could be cooled more promptly after it is packed, either before or after loading in the car.

Losses from over-ripeness are equally complex. The fruit ripens rapidly as soon as it is picked, and the ripening needs to be checked quickly at this time by a cold temperature. The grower may hasten the ripening by delivering the fruit to the car in a warm condition, and by delaying the shipment after the fruit is packed. Once in the car, the fruit continues to ripen until it is thoroughly refrigerated throughout. The losses of this nature are not wholly due to the grower, the handler, or the transportation company, but may be due to causes for which each shares the responsibility.

The American fruit industry now requires better handling and better transportation facilities than in the early stages of its development. As the industry increases and the distribution of the products is extended, more careful treatment in the orchards and packing houses and an improvement in transportation service will be required if it is to be permanently successful. There has been great improvement along these lines, and unless the fruit industry and transportation facilities are exceptions to the general progress that is being made in all industries in America, the improvement in every particular should be greater in the years to come than in any period in the past.

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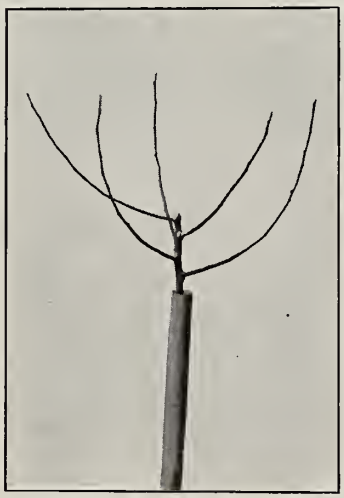
Try a pair of American Lady $3 and $3.50 Shoes, or American Gentleman $3.50 and $4

Land Plaster, the Great Soil Stimulator

Strengthens and invigorates all soils. You cannot afford to be without it

OREGON LIME & PLASTER COMPANY

Mill: Lime, Baker County, Oregon. Office: Worcester Bldg., Portland, Oregon



The Best Tree Protector

Made of Yucca Palm. A perfect protection against rabbits, grasshoppers, heat of the sun, borers and frost, and keeps the tender bark of the young trees moist and healthy. Prevents sun scald.

Quicker to put on than any other protection; no strings to tie; is open grained and allows free circulation of air. Can be taken off to spray the trees, and is not affected by rain.

PRICE $1.50 PER HUNDRED

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Magnifiers to examine scale

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Attention of Nursery Men

We manufacture all kinds of Rope and Twine for nursery purposes

Catalogue and prices on request

TO FRUIT GROWERS

ORCHARD YARN for tying heavy bearing limbs. Also, young trees with heavy foliage, in windy districts, should be staked and tied to insure straight growth, thus adding to the appearance and worth of the orchard.

Yarn is put up in 10-pound coils for convenience in handling. Sold by all dealers.

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The Portland Cordage Co.

PORTLAND, OREGON

SCOTT-MUNSELL IMPLEMENT CO.

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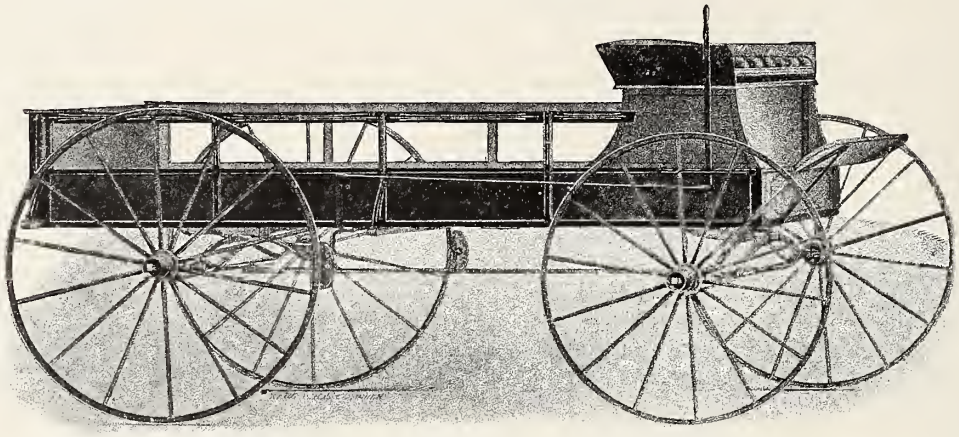
Vehicles and Implements

Carry large assortment of best styles of earth-working tools; also haying and harvesting machinery; also wagons for fruit delivery and for teaming; also driving vehicles for business and for pleasure uses.

WE RECOMMEND TO FRUIT GROWERS THIS WAGON NO. 120
MADE BY FREMONT CARRIAGE MANUFACTURING COMPANY

Bodies 42 inches wide. Have drop end gate with chains. Hang low on duplex springs.



Uses the celebrated "Fitch Gear" "Short Turn" with high wheels, wide body hung low.

Sizes: 1⅛-inch, 1¼-inch, 1⅜-inch and 1½-inch axles. Bodies: 7-foot, 8-foot, 9-foot, 10-foot; 42 inches wide

THE NAME OF MAKERS IS GUARANTEE OF HIGHEST QUALITY

GOOD PRIZES AT SPOKANE NATIONAL APPLE SHOW

ONE thousand dollars in cash and a gold medal banner, carrying with it the title of champion of the world, will be awarded as the sweepstake prize for the best carload of commercial apples exhibited at the third National Apple Show in Spokane the week of November 14. The second prize in this contest is $300 and a silver medal banner.

E. F. Cartier Van Dissel, chairman of the board of trustees of the National Apple Show, Inc., said in making the foregoing announcement that apples may be packed in barrels or boxes with a minimum of 210 barrels or 630 boxes. The exhibitor may show one variety, or he may exhibit any number up to six, but each variety must consist of at least fifty boxes. He may show 580 boxes of one variety and fifty of another, or he may make any other division, provided each variety has a total of fifty or more boxes.

The minimum of 630 boxes does not prohibit the exhibitor from shipping more fruit in his car, but when placed on exhibition he must show ninety rows, seven boxes high, as his display. The exhibitor must be the owner, lessee or authorized agent of the land where the apples were grown, and give a sworn statement that the apples were all grown upon one orchard.

"All the competitions, including the sweepstake contest," Mr. Van Dissel said, "are free and open to the world. The entries will close on November 9 and all exhibits must be on the ground on November 12."

Carload competitions on seven varieties and one mixed carload were also announced by Mr. Van Dissel, as follows: Winesap, Rome Beauty, Wagener, McIntosh Red, Jonathan, Yellow Newtown and Spitzenberg. The mixed carload entries may consist of not less than fifty boxes of any standard winter variety to the number of 630 boxes in

HARVEY BOLSTER SPRINGS

Soon save their cost. Make every wagon a spring wagon, therefore fruit, vegetables, eggs, etc., bring more money. Ask for special proposition. Harvey Spring Co., 781-17th St., Racine, Wis.

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Home Phone 3 Hood River, Oregon

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FARMING AND ORCHARD
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Disc Harrow Extension for Orchard Cultivation a Specialty
When you want any kind of Orchard Tools come to me and get the Best

COLUMBIA RAMS

Make Arid Land Valuable

Cost about $15.00 per acre of land irrigated

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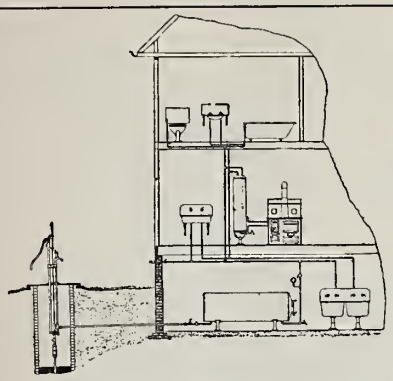
THE BEST OF ORCHARD AND GARDEN TOOLS A SPECIALTY
GILBERT - VAUGHAN IMPLEMENT CO.
HOOD RIVER, OREGON



Why not enjoy the most desirable of city conveniences?

Water Supply Under Pressure

YOU NEED A

Leader Water System

IN YOUR HOME

No doubt you have often envied your city friends and wished for the conveniences afforded by modern water supply under pressure, in **your** home. The **Leader Water System** will enable you to enjoy these advantages more thoroughly than is possible with any other system. **The Leader** is not an ordinary farm water supply system, with its attending troubles and annoyances; it is far from ordinary. It will furnish a dependable supply of water wherever and whenever you desire it. You can enjoy modern home conveniences, such as the bath, toilet, etc. You will have plenty of water for all domestic purposes, the laundry, sprinkling and PROTECTION AGAINST FIRE, that danger which constantly menaces the rural home. Pressure up to 125 pounds may be maintained with **The Leader System.** As is shown in the illustration, the tank may be placed in the basement (more often it is placed underground), where it keeps the water cool and fresh in summer and prevents freezing in winter. The beauty of **The Leader System** is that it is practically troubleless. With the exception of a few moments when water or pressure become low, it needs no attention. **But for the fact that every time you have occasion to call on its services you are reminded of its efficiency, you would forget that you had such a thing as an independent water supply.** We will be glad to give you an estimate on a system that will meet your requirements. Use the coupon.

USE THE SLIP AND GET OUR FREE BOOK, "QUESTION OF WATER"

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Mitchell, Lewis & Staver Company, A-5
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Send me your book, "Question of Water."

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each display. The straight carload entries will be scored against all other exhibits in their class on variety. The first prize in each contest is $250 and a gold medal banner, the second being $100 and a silver medal banner. There will also be special prizes for the best packs.

ORCHARDIST SUPPLY HOUSE

FRANZ HARDWARE CO.

Hood River, Oregon

HEADQUARTERS FOR

CENTURY SPRAY PUMPS

Hose, Nozzles, First-class Plumbing Supplies

C. F. SUMNER

Successor to Norton & Smith

HOOD RIVER, OREGON

The carload prize-winners and district displays from various parts of the Northwest will be exhibited in the First Regiment Armory, Chicago, November 28 to December 4.

Judges of international reputation will pass upon the exhibits shown in Spokane next fall, the chief points for consideration in making comparisons of values being as follows:

First: Values of the varieties for the purposes to which they may be adapted.

Second: Color, size and evenness of fruit.

Third: Freedom from marks of insects and blemishes.

Fourth: Apparent care in handling and taste displayed in the packing and arrangement.

Scoring points are thus apportioned: Quality, color, pack and condition, 20 each; size and uniformity, 10 each; possible, 100.

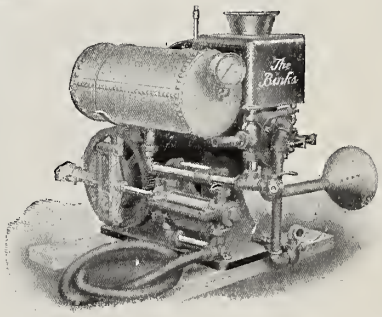
These points will be considered on box exhibits: Bulge or swell, alignment, height at ends, firmness and attractiveness, 4 each; possible, 20. On barrels: Staves, hoops, heads and nailing, 2 each; possible, 8 points. On packing: Facing, 6; tailing, pressing and packing, 2 each; possible, 12 points; total, 20 points.

"The National Apple Show is not a money-making enterprise in any sense of the term," said Ren H. Rice, secretary and manager of the organization. "In fact, it costs the people of Spokane fully $25,000 a year to maintain the institution. The first show in 1908 cost $41,000, while the expense of the 1909 exposition, which was much larger, the display space occupying an area of three and a half acres, was approximately $42,000, and of these amounts a total of $50,000 was contributed by subscribers to a guarantee fund.

"The people of Spokane look upon these contributions as an investment in a project which is designed to develop the apple industry, not only in the Northwestern states and provinces but all over the continent; encourage perfection in growing and fix a standard for commercial apples. Another purpose is to bring the growers of the various districts together for the interchange of ideas.

"The shows in 1908 and 1909 were the most pretentious ever undertaken anywhere in the world, so far as the display of apples is concerned. More than 1,000,000 apples were shown in 1908, while in 1909 there were 1,526,831. There will be fully 2,000,000 apples entered in the various contests next November. The total value of this year's entries is estimated at from $55,000 to $60,000.

"Commercial organizations throughout the Northwest, and growers in all parts of the country are co-operating with the management in an effort to make the shows in Spokane and Chicago the largest and best in the history of fruit expositions."



Simple, compact, light, efficient and durable, the Binks is the sprayer you need. It is built for business.

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RESOURCES AND OPPORTUNITIES

There is more doing in the West today in the way of progress and development than in any other section of the United States. If you are interested and want further information about opportunities and resources of a vast new empire, use the coupon.

The Pacific Monthly Company,
Portland, Oregon.

Find enclosed 25 cents, for which please send me three recent numbers containing articles about resources and opportunities in the West.

Name.....

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WHEN WRITING ADVERTISERS MENTION BETTER FRUIT

People of Oregon it is Now up to You

The popular **COLONIST FARES** will again be in effect between September 15 and October 15, during which time tickets to all points in Oregon will be on sale daily from

CHICAGO at .	$33.00
ST. LOUIS . .	32.00
OMAHA . . .	25.00
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and from other cities correspondingly low. These are west-bound, one-way fares only, but any one here can **PREPAY** for relatives or friends in the East, if desired. Consult your local railroad agent.

Now is the Time

to let the world know of our vast resources and splendid opportunities for **HOME BUILDING.** Write to every one you know in the East. Send them good, instructive printed matter, and tell them that the cost of getting here is but little more than half the usual cost, and to call on a representative of the

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WM. McMURRAY
General Passenger Agent
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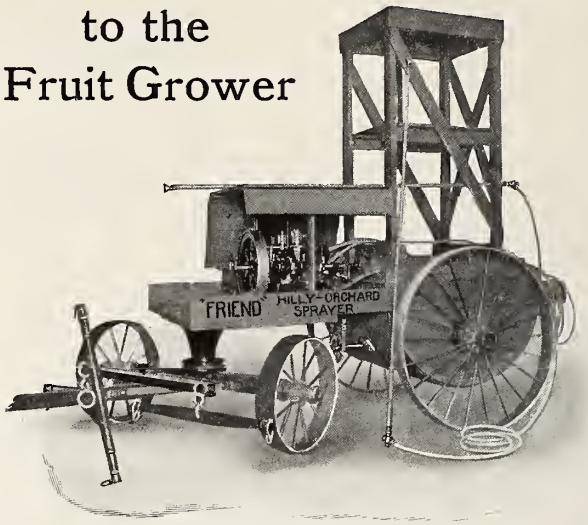
A Real "Friend" to the Fruit Grower



A hillside, low-down, short-turning Model Sprayer. Only one of the many good outfits made by the

"Friend" Manufacturing Co., Gasport, N. Y.

The 1911 Models are now ready. They show **new** and **novel** features characteristic of these **wonderful** machines. Not every one is **privileged** to use the "FRIEND," only those who place their orders in time to insure delivery.

California Representative:
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SHIPPERS EVERYWHERE

Realize that Shipping Fruits, Vegetables, etc., is a

HAZARDOUS BUSINESS

WHY?

(1) Careless packing, or ignorance of grade requirements.

(2) Unreliable commission merchants and brokers.

WHAT'S THE REMEDY?

Join the great national organization known as the Produce Reporter Co., with headquarters in Chicago; adjusters, reporters and attorneys everywhere—anywhere that your shipments are likely to be in demand.

It's impossible to give details in this limited space. Friend Shepard's advertising columns are too popular, and justly so. But write for particulars, **now**, before determining how to move your crop this season.

It may add $1,000.00 to your net profit this year. Don't "if" or "but"—don't argue, but investigate. Ask for proof and references of nearby shippers—ask Mr. Shepard, the publisher; he knows. That's all.

PRODUCE REPORTER CO.
Main Office 34 South Clark Street CHICAGO

Factory Prices
Cash or Credit

"A Kalamazoo Direct to You"
TRADE MARK REGISTERED

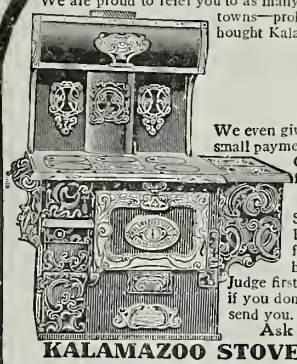
—"And Gas Stoves Too"
A Word to Independent Buyers—

The secret of getting the most for your money—in all stoves and ranges, including gas stoves and ranges—is in buying **direct from the factory** that puts high standard into materials, expert labor and heat and fuel-saving original designs—cutting out all dealers' and middlemen's profits.

That's why **Kalamazoos** save you from **$5** to **$40** on price for stoves and ranges of equal quality sold by dealers. We don't sell to dealers—only direct to the users.

All Kalamazoos sent ready to use and handsomely blacked and finished.

We are proud to refer you to as many as you wish of over 140,000 satisfied owners of Kalamazoos in over 21,000 towns—probably including many of your own neighbors, or near you. Every one bought Kalamazoos direct from us, safe delivery guaranteed.



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We even give **credit** now—same as your dealers would—to responsible persons—small payment first and then monthly payments after your free trial, if satisfied. Or your payment back and we take our Kalamazoo back and pay freight both ways. You'd be nothing out at all.

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Spend a cent for a postal and send your name for our Big Free 100 page Kalamazoo Illustrated Book with wholesale factory prices, explaining all, with our $100,000 bank bond guarantee of satisfaction or money back.

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Kalamazoo, Michigan

Over 100 Pages of Stoves and Ranges Shown in Our Big FREE Catalogue

Stranahan & Clark
DEALERS IN
Commercial Fertilizers
Land Plaster, Lime
Plaster Paris, Cement
Building Plasters
HOOD RIVER, OREGON

REGULATIONS OF MEMBERS OF HOOD RIVER APPLE GROWERS' UNION FOR THE PACKING OF APPLES

1. The union will notify you by mail when a variety is to be picked. Upon receipt of such notice, pick, wipe and sort the apples, and get everything ready for packers, as follows: Packing house, boxes, paper, packing table, nailing machine, nails, etc. Notify the office or the field inspector when you are ready for packers. The field inspector will then call on you, and if in his judgment the job is ready for packers, he will arrange to put packers to work; if not, he will advise you how to proceed.

2. Picking—If the weather is hot, pick during the cool part of the day. Do not allow pickers to pull off fruit spurs, nor bruise apples by dropping them into buckets or boxes. Apples should be placed in the baskets or boxes, and not dropped in, or poured in. The stems of the apples should not be broken off. Haul the apples from the orchard to the packing house daily; do not allow them to stand in the orchard in the sun.

3. Wiping and Sorting—Wipe the apples just enough to make them clean and get off the spray. Do not polish them. Sorting should be done when the apples are being wiped. In sorting keep the fancy grades in boxes by themselves, the choice grades by themselves and the culls separate. Put four-tier apples and larger together, and four and a half-tier and smaller together. Fancy Spitzenbergs should always be graded for color, 70 per cent or more good red color. Keep the light Spitzenbergs separate from the red ones. Special advice will be given on other red varieties for color as sold.

4. The grower will be held responsible for quality, and is required to do all the sorting. The packers will not be held responsible in any degree for the quality of the apples. It is the packer's business to pack apples and not to sort them. If the apples are not satisfactory for quality upon final inspection at our warehouse, they will be set aside, the grower notified, and a special arrangement affected between the grower and the manager as to the disposition of the fruit. If it is decided to repack, the repacking will be done at the grower's individual expense. If the apples are to be shipped without repacking, they will be shipped in the next lower grade, or if too poor for the second grade, they will be shipped in the grade to which they properly belong. For instance, if packed for fancy and rejected, they may be handled as choice if good enough; if not, they will be consigned to a local market for what they will bring. The grower will be held responsible for quality; packer is responsible for packing only.

5. The packing house should be arranged to let in plenty of light and keep out the wind. Provide sufficient lamp light for late in the afternoon, as it gets dark early.

6. Packing Tables—Each grower should have one packing table, and more if needed.

7. Paper—Get plenty of paper early in the season. Paper for sale at the union warehouse in town.

8. Boxes—Have a sufficient number of them on hand. Keep them clean. Do not pack fruit in dirty boxes. Buyers will not receive dirty boxes, and the union will not accept them.

9. Apples on packing table — Growers are expected to keep the packing tables properly filled for packers.

10. Piling Loose Boxes of Apples—Do not fill boxes too full of loose apples for piling in your warehouse, or the apples will be bruised by the

IF YOU WANT TO KNOW MORE ABOUT THE WEST,

Resources, opportunities, life, literature, etc., don't delay, but send the coupon at once. The West of today will astonish you. There is something doing in the empire beyond the Rocky Mountains that will interest you. Get in touch with a live land. where fortunes await the willing.

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A John Deere Book
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A Farmer Can Get It **Free**

IF interested in farming, get our FREE book called "BETTER FARMING." It tells all about—

Alfalfa	*Making Hay*
Dairying	*Fighting Frost*
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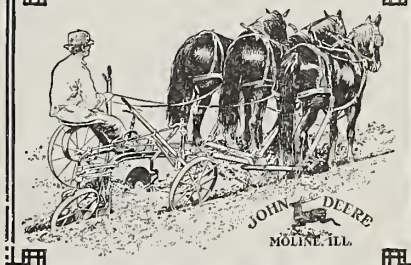
Art of Plowing	*Soil Fertility*
Boll Weevil	*Gasolene Engines*
Controlling Weeds	*Adjusting Plows*

Hired Help Costs Big Money

Your land is high priced and hired help expensive. There is only one way to make big money—use implements that cut down the cost of your crops. Isn't it true that when you break something on a plow it is nearly always a cast part? Wherever strain comes on a John Deere Plow there you will find steel—tool steel. Take any plow that has had hard work for five years, put it along side of a John Deere which has been in service that long—and see the difference. Then there is no paint to cover up poor material. You can see the wear and the defects. The John Deere will be solid, staunch and ready for the hardest job. Then you begin to know that quality counts.

You can take pride in owning a John Deere—the standard plow of the world for two generations.



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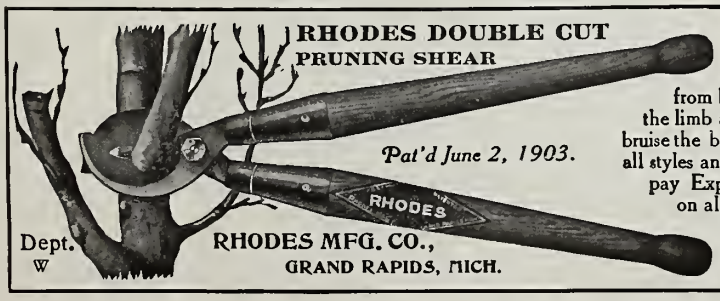
Package No. 46

Mention the package number *sure*, then you will get exactly the right stuff.

DEERE & COMPANY, MOLINE, ILL.



RHODES DOUBLE CUT PRUNING SHEAR

Pat'd June 2, 1903.

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

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RHODES MFG. CO.,
GRAND RAPIDS, MICH.

next box placed on top. If boxes should be too full, either take some out or place cleats between the boxes. No box should be placed on top of a box of apples so full as to cause pressure upon the apples in the under box.

11. Piling Packed Boxes of Apples Without Covers—Keep the packed boxes out of the way of the packers, and do not under any circumstances allow the packers to pile a box of packed apples on top of a box already packed, and waiting for the cover. This will certainly bruise the apples, and may cause you loss when the pack is inspected at the union warehouse. The union cannot accept apples which show bruises, no matter how caused.

12. Piling and Loading—After covers are nailed on, always pile boxes of apples on the sides, and load into wagons on the sides. Do not pile boxes of apples into wagons by standing them on the ends. This doubles the risk of bruising when hauling by increasing the weight on the apples in the under end, and settles the apples in the box, making an empty space in the top end, and the pack may be rejected for loose pack. Packers will not be held responsible for loose pack when the apples come to the warehouse loaded in this way. Always pile boxes of packed apples on the sides and load them into your wagons the same way.

13. Grower's Number and Name—Each grower is required to put his number on each box with a rubber stamp in the upper right-hand corner of the end. Numbers will be supplied free by the union. The state law requires the grower to put on his name and postoffice address with a rubber stamp. You can order these stamps of the union or at a stationery store.

14. Name of Variety and Number of Apples—The grower will put on with a rubber stamp the name of the variety of apples in the center of the box near the top, and the packer will put on with a rubber stamp the number of apples contained in the box, just above the name of the variety. Be sure and do this right. All stamping must be done on one end of the box.

15. Hauling—Haul on springs, and use a wagon cover to keep off the dust and rain. Pile the boxes on the sides. Haul as soon as packed. Don't keep them unless so advised.

16. Nailing—Use four nails on sides, four on tops and four on bottoms. The best nail is a five-penny barbed or cement coated nail. Please do not use any other.

GRADING RULES

Fancy grade consists of perfect apples only. The apples must be free from worm holes, stings, scale, fungus, scab, rust, or any other disease, and free from all insect pests, decay or injury. They must be free from bruises and limb rubs, and the skin around the stem must not be broken. All apples must be clean, fully matured, not deformed and must have a healthy color. Spitzenbergs must have 70 per cent or more of good red color. All red apples must be of good color.

Choice grade consists of apples a little below fancy, and includes such apples as are not perfect. These must be good apples, not culls. No apples with worm holes or broken skin will be accepted. Limb rub must not be larger than a ten-cent piece. Only two stings will be allowed, and no sting is permitted where the skin of the apple is broken. No apples will be accepted if affected with San Jose scale, dry rot, or which show an open or black bruise. Apples showing fungus will not be permitted where the spot is larger than one-half inch in diameter.

◈ ◈ ◈

Cleveland, Ohio, June 13, 1910.

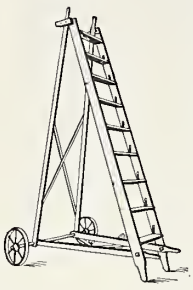
Editor Better Fruit:

We consider "Better Fruit" one of the best advertising mediums in the Northwest, and certainly expect to carry an ad with you again in the near future. Thanking you very much, indeed, for your kind attention, we remain,

Very truly yours,
The Grasselli Chemical Company,
Per P. H. Wagner.

FRUIT GROWERS ATTENTION!

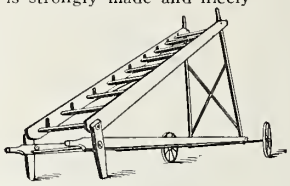
THE SAGER ORCHARD LADDER



Is the handiest and simplest extension ladder on the market. It has two positions, a high and a low, the first twice as high as the latter. To change from one to the other all you have to do is to turn it over. No tiresome round rungs to stand on, but has nice level steps, which adjust themselves to either position. Stands independent of tree, thus avoiding bruising fruit and limbs. Is mounted on wheels and a child can move it. Lastly, it folds up like a pocket knife if you want to store it. It is strongly made and nicely painted, and to introduce it this season will make the following low prices, f.o.b. Missoula:

Sizes
4x8 ..... $ 8.00
5x10 ..... 10.00
6x12 ..... 12.00

Shipped knocked-down. Patented July 5, 1910.



Address HARRY A. SAGER
R. R. 3, Missoula, Montana
Reference: First National Bank of Missoula
SATISFACTION GUARANTEED OR MONEY REFUNDED

Which Wagon Would You Choose

This letter from Guy L. Shaw, of Beardstown, Ill., explains these two photographs:

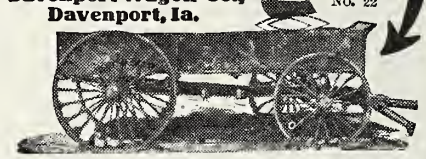
"Enclosed find photograph of a Davenport Steel Wagon and an ordinary wooden wagon—exactly how they looked after doing the same work, over the same roads, with the same loads."

Mud does not stick to Davenport wheels—but that's only one of the reasons why **you** should choose

The Davenport Roller-Bearing Steel Wagon

Roller bearings mean 30% to 50% lighter draft. Guaranteed to carry 5,000 pounds. Gears solid steel, trussed like a bridge. Steel wheels, strong spokes, forged into hubs and hot-riveted to tires. Nothing to shrink, rot or work loose. Oil without removing wheels. One Davenport lasts a lifetime. Don't buy any wagon till you write us. Be sure to ask for Free Package No. 22

Davenport Wagon Co., Davenport, Ia.



NONE SO GOOD

Azusa, California, October 29.

J. C. Pearson Co., Boston, Mass.

Dear Sirs: Replying to yours of the 26th inst. we beg to say that the different associations composing this exchange have for a number of years past used the *Pearson* Cement Coated Wire Nail in making up all of their orange and lemon boxes. Our output has averaged over a thousand carloads of fruit annually for several years back. We have found the *Pearson* nail *uniformly satisfactory,* and our experience has convinced us that there is no nail on the market better than the *Pearson* nail for box purposes. We have at different times experimented with other nails, said to be "just as good," and have found them *distinctly inferior* to the *Pearson* nails. Very respectfully,

A. C. G. Fruit Exchange,
Per P. C. Daniels, Secretary.

There can be no stronger proof of the worth of an article than to find it universally used by practical people. Nail makers have copied our trade mark and **endeavored** to imitate the quality of

"PEARSON"
Cement Coated Nails

but without success. PEARSON'S still remains the standard; perfect in every particular, meeting the requirements of the most exacting box makers. They are **cheaper** and **better** than any other. The combination of good shooks and "PEARSON" Nails insures a perfect box.

Be particular to order the "PEARSON" brand, thus protecting yourself from substitutes said to be "just as good," and which have been found to be "distinctly inferior."

SOLD BY
MOST HARDWARE MERCHANTS

J. C. PEARSON CO.
Boston, Mass.
Sole Manufacturers

A. C. RULOFSON CO.
Monadnock Bldg., San Francisco, Cal.
Pacific Coast Sales Agents

CLARKS CUTAWAY TOOLS

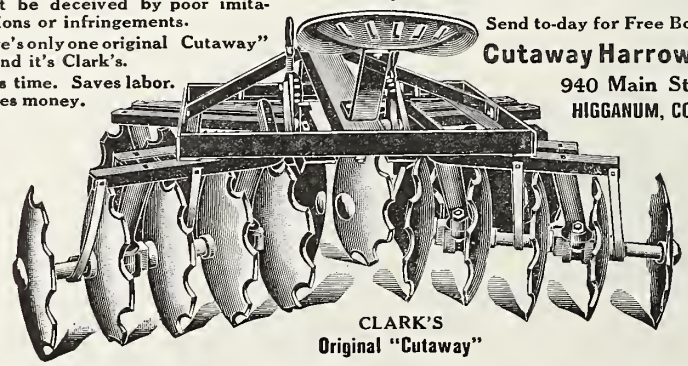
LESS WORK

Drawn by two medium horses.
Will cut 28 by 30 acres or double-cut 15 acres in a day.
Will move 15,000 tons of earth one foot in a day.
Runs true in line of draft and keeps the surface true. All other Disk Harrows have to run in the half lap.
Has Improved reinforced main frame, and improved standards.
Don't be deceived by poor imitations or infringements.
There's only one original Cutaway" and it's Clark's.
Saves time. Saves labor. Saves money.

BIG CROPS

Crops increased 25% to 50%.
Better Grain, better Hay, better Fruit.
Takes place of Plow and Harrow.
Jointed Pole takes all the weight off the horses' necks.
We make 120 sizes and styles of Disk Tools.
Every machine fully warranted.
Thousands in use and giving satisfaction.
If your dealer won't supply you, we will.

Send to-day for Free Booklet.
Cutaway Harrow Co.
940 Main Street
HIGGANUM, CONN.



CLARK'S
Original "Cutaway"

Mitchell, Lewis & Staver Co., Western Agents, Portland, Oregon

The Deming HYDRAERAM Pumps Water with Water; the First Cost Is Small, and There Is Almost No Expense for Keeping It Up

When you plan a water-supply system of any kind, there are always two items of cost that you must reckon with—first, the expense of the outfit, and second, the time and trouble and money that it will take to keep it up.

If you are so fortunate as to possess a spring or an unfailing hillside stream, however, neither of these need trouble you, for we have made it easy for you to settle the home water-supply question, easily and cheaply, for all time. The Deming Hydraeram is built for just such needs, and it supplies them admirably.

This is an automatic machine which pumps water with water. When placed at the bottom of a slope where the stream can flow downward to it on a decided slant, it discharges a certain part of that water to a higher point than the spring or source of supply, and for a distance several times greater than the length of the pipe which feeds it.

If, therefore, you have a suitable spring or stream anywhere about your property, even at a distance from the house, the Deming Hydraeram will put the water where you want it—and assure you, besides, the satisfaction of knowing that whenever you want water, it will be there.

The expense is less than that of any other reliable form of water-supply. In fact, practically the whole cost is that of the Hydraeram itself, which is quite reasonable, and the necessary pipe, which, of course, depends upon the distance the water has to be forced. In comparison with other systems, the cost is very low—scarcely more than one-fifth—and, once it is started and properly regulated, the outfit is entirely automatic, requiring no attention whatever beyond an occasional oiling.

If you do not have springs or streams suitable for operating a Hydraeram, yet are interested in a simple and economical method of securing plenty of water for home, farm or irrigation purposes, we have many other types of pumping outfits, including those operated by electric motor, engine, water-wheel, windmill or other power, and a very complete line of Hand Pumps of many kinds.

We would like to recommend something for your especial use. Write and tell us how much water you need; where you get it—whether from well, spring, or stream; and the purpose for which you wish to use it. We will take great pleasure in making up a plan adapted to your need, with an estimate showing its cost. We are water-supply specialists, and we make no charge whatever for this service; you will be decidedly interested in the figures we give you.

Sit down and write us *now*—before you forget it—and our estimate will come to you by early mail. Address our nearest office.

CRANE CO., Pacific Coast Agents

PORTLAND SPOKANE
SEATTLE SAN FRANCISCO

THE DEMING COMPANY, Manufacturers, 743 Depot St., Salem, Ohio
Spray Pumps and Nozzles, Hand and Power Pumps for All Uses

This outfit is useful for irrigating above a canal, as the water from the machine may be used upon the lands below.

The Hydraeram may be set in a "battery" of two or more, each having its separate drive pipe and discharging into one delivery pipe.

Grasselli Arsenate of Lead

TRADE MARK
REG. U.S. PAT. OFFICE

Do Not Buy Arsenate of Lead on Arsenic Contents Alone

As the name implies, Arsenate of Lead is a chemical combination of **Lead** and **Arsenic**, and the **Lead** has an important function in this combination.

It acts as a binder, holding the Arsenic on the foliage, destroying not only the insects on the foliage at the time the poison is applied, but those that put in their appearance later.

It forms a strong chemical union with Arsenic, reducing to the minimum soluble arsenic, which causes foliage injury. When used according to directions it will not injure the most delicate foliage.

GRASSELLI ARSENATE OF LEAD PASTE contains 15 per cent Arsenic Oxide, enough poison to kill, and about 40 per cent Lead Oxide, the maximum amount consistent with good mixing properties.

It complies in all respects with the most rigid requirements of federal and state laws governing the manufacture and sale of Insecticides.

Grasselli Arsenate of Lead

Kills all Leaf Eating Insects
Sticks to the Foliage
Does not Injure the Foliage
Mixes readily with Water

DISTRIBUTERS IN THE NORTHWEST:

Wenatchee Produce Co., Wenatchee, Washington
H. S. Church, Spokane, Washington
Hardie Manufacturing Co., Portland, Oregon
Samuel Loney & Co., Walla Walla, Washington
Hood River Apple Growers' Union, Hood River, Oregon
And in all consuming districts

WRITE THE ABOVE, OR OUR ST. PAUL OFFICE FOR NEAREST DISTRIBUTER

The Grasselli Chemical Co.

Established 1839

Main Office, Cleveland, Ohio

St. Paul, Minn. New Orleans, La.
Chicago, Ill., 2235 Union Court Cincinnati, Ohio
New York City, 60 Wall Street Birmingham, Ala.
St. Louis, Mo., 112 Ferry Street Detroit, Mich.

BETTS FLUME CEMENT

STOPS WASTE OF WATER

PREVENTS EXPANSION AND CONTRACTION

PRESERVES THE WOOD

Manufactured by

The

C. G. Betts Company

Spokane, Washington

YAKIMA VALLEY FRUIT GROWERS' PACKING RULES

ALL fruit shall be carefully picked at the proper state of ripeness and laid (not dropped) into buckets or baskets. No windfalls or fruit that drops from trees, from any cause, shall be placed with picked fruit for packing.

When pouring fruit from picking bucket or basket into boxes or trays, the bucket or basket shall be put down into receptacle until it rests on bottom. Picker shall then place his hand over fruit to let it out gently, that it may not in any way be bruised, except that peaches and other tender fruits shall in all cases be packed direct from baskets. Apples shall be carefully sorted and graded before being placed on packing table.

All wagons for conveying fruit from orchards to packing houses, and to shipping stations, must be supplied with springs, so that there will be no jar to mar or bruise fruits, and tarpaulins or other covering should be placed over loads to keep out heat, dust or rain.

PEACHES

Fancy—All fruit shall be free from worms, scale, disease, blemishes, split pits and picking bruises Sound, firm, smooth, true to name and well colored, according to variety.

Choice—All fruit in this grade shall be in as perfect condition as the fancy grade, with the exception of color.

Each grade and count shall be of uniform size; each peach neatly wrapped in paper and boxes tightly and carefully packed, suitable for long distance shipping. Use diagonal pack, sides to be solid.

The number of peaches, variety and grade, shall be plainly stamped on end of each box by grower.

Peaches not firm or solid, owing to ripeness, should be carefully sorted and packed separately, marking such boxes with an "X" and variety, for local markets and express shipment.

No Elberta peaches of greater count than eighty to the box will be received, and no variety with more than ninety to the box shall be accepted, except Alexanders and Hale's Eearly, for nearby express shipments.

Use Washington standard peach box of appropriate size. In making, use six four-penny cement coated nails to each side; twelve three-penny cement nails for bottom, eight four-penny cement nails for top, nailing through cleats only. Use no cleats on bottom. Be careful in nailing that no points protrude.

PRUNES, PLUMS AND APRICOTS

All fruit shall be packed in four-basket crates, three-tier to each basket. Fruit must be hand-picked, sound and merchantable, and no smaller than 6x6 pack will be accepted. Baskets must be well filled, fruit touching lid, and package must weigh not less than twenty-seven pounds gross.

When narrow slats are used in making crates, place two four-penny cement nails in end of each slat, sides and bottom; eight four-penny nails in top, nailing through cleats only. When wide slats are used, place three four-penny cement nails in end of each slat, sides and bottom, and eight four-penny cement nails in top, nailing through eleats only. Use no eleats on bottoms. Use prune paper 7½x32 inches between each layer and over top.

PEARS

Fancy—Bartlett, Buerre d'Anjou, Comice, Flemish Beauty, Clapp's Favorite, Buerre Clairgeau, Fall Butter and kindred varieties, shall be no smaller than two and one-half inches in diameter.

Winter Nellis pears must be no smaller than one and three-fourths inches in diameter.

All pears must be packed in Washington standard boxes, not to weigh less than fifty-two pounds per box, gross.

All fruit must be free from worms, worm stings, scale, picking bruises, blemishes; free from evidence of rough handling, scab or deformity of any character whatever.

Choice—All fruit shall be sound, free of worms, worm stings, scale and disease. Slightly misshaped pears, or those having limb rub or other like defect, may be included.

No fruit less than two and one-fourth inches shall be accepted. In fact, stock in this grade must be only a little below fancy.

Name of variety, grade and tier shall be plainly stamped on end of each box by grower; variety in upper left-hand corner and tier in upper right-hand corner, close to top.

In making boxes, use eight five-penny cement nails on each side; eight six-penny on bottom and top, nailing through cleats only.

APPLES

Summer—Paek only one grade of summer apples, "orchard run," but in making this paek, keep out all small and imperfect fruit; in other

"I HAVE SO LITTLE FUNGUS

That I cannot afford to mark my fruit with bordeaux," says Mr. George T. Powell, of Ghent, New York, a grower of tancy apples. "I have less scale and finer foliage than ever before."

Reason: Five years' consecutive use of

"SCALECIDE"

Cheaper, more effective, and easier to apply than lime-sulphur

Send for booklet, "Orchard Insurance"

PRICES: In barrels and half-barrels, 50c per gallon; 10-gallon cans, $6.00; 5-gallon eans, $3.25; 1-gallon cans, $1.00

If you want cheap oils, our "CARBOLEINE" at 30c per gallon is the equal of anything else

B. G. PRATT CO., *Manufacturing Chemists,* 50 Church Street, NEW YORK CITY

Malthoid Roofing

WATER PROOF MALTHOID WEATHER PROOF

The dependability of Malthoid Roofing has been proven by special tests covering a period of many years.

Malthoid will last as long as the building it covers. It is inexpensive, easy to lay, and your roof troubles are over when Malthoid is laid.

Made by THE PARAFFINE PAINT COMPANY

San Francisco and Everywhere

Stuart Hardware & Furniture Co., Agents, Hood River, Oregon

IT'S FREE

Send for it. A new and valuable book on

Cheerful Homes

This booklet is illustrated with pictures of the most beautiful bungalows of Southern California

THE MIRACLE OF WATER

Millions of acres of raw land are being reelaimed in the West by irrigation. Water makes this desert waste the most fruitful land in the world. No magician has wrought such wonders with magic wand. Interested? Send the coupon.

The Paeifie Monthly Company,
Portland, Oregon.

Enclosed find 25 cents, for which please send me three reeent numbers telling about the Miracle of Water.

Name_____

BF Address_____

HOOD RIVER SPRAY MFG. CO.
HOOD RIVER
Maker and Distributer of the Famous

Niagara Lime-Sulphur Spray

The leading fruit growers and fruit growers' associations of the Northwest use *Niagara* exclusively. *Ask them the reason why. Niagara* is made under special process originated by ourselves. The only known process by which is made a permanent, clear and reliable solution of lime and sulphur of sufficient strength to meet all requirements.

Now is the time to compare results of summer spraying with our kind, with those using the "just as good" kind. Look for fungus.

Write for Further Information

WHEREVER FRUIT EXCELS NIAGARA SPRAY IS USED

words, pack only sound apples, free of worms and scale, and no smaller than five-tier.

Extra Fancy Export—Fruit shall be no smaller than two and one-half inches in diameter, of good, natural, matured color, free from discolorations, and shall be absolutely free of worms, worm stings, scale, scab, limb rub, water core, sun damage, picking bruises, or any defect whatever. Stemless fruit, skin punctures or any evidence of rough handling shall be considered defects. All spraying effects must be removed.

Red varieties must be red all over, of good shape and form, characteristic of the variety.

Fancy—All fruit of this grade shall be free of worms, scale, scab, stings, bruises, water core, or any evidence of rough handling, with stems intact and characteristic of the variety; shall be smooth and firm.

Varieties in this grade, with the exception of Winesaps and Missouri Pippins, shall be no smaller than four and a half-tier, and no box shall contain more than 165 apples; Winesaps, Missouri Pippins, Geniton and Jonathans will be accepted as small as five-tier, if red all over.

Each specimen of Winesaps, Jonathan, Arkansas Black, Gano, Lawyer or Delaware Red must represent 75 per cent true color.

The following varieties, Ben Davis, Baldwin, Rome Beauty, Wagner, York Imperial, Northern Spy, Walbridge, Geniton, Mammoth, Black Twig, Blue Pearmain, Hubbardston, Hyde's King, King of Tompkins, Rambo, Ruby, Senator, Snow, or other red varieties, will be accepted 50 per cent red. Red Cheek Pippin must show a red cheek.

Choice—All fruit in this grade shall be free of worms, scale, scab and bruises, sound and true to name. No smaller than four and a half-tier pack will be accepted, except that Winesaps, Missouri Pippins, Geniton and Jonathans may be accepted as small as five-tier.

Name of variety, grade and tier or count of each box of apples shall be plainly stamped on end by grower; variety, upper left-hand and tier in upper right-hand corner, close to top.

All export and fancy varieties to be wrapped in duplex paper, unless otherwise specified. Bulge of boxes should not be more than one and one-half inches, or less than one inch, including both top and bottom.

Use Washington standard apple box. In the making, use eight five-penny cement nails on each side; eight six-penny to the top, and same number on bottom. Use four cleats to each box and nail through cleats only.

CHERRIES

All fruit must be carefully picked with stems intact. Shall be sound and perfect in every respect. Sort carefully for facing as to size and color; place in neatly one at a time, creased side down. Place in box so fruit will be in rows both ways, except where broken pack is used. Great care must be used in grading and placing fruit so rows will be perfectly straight. Filling is of great importance. Fruit should be carefully placed in small lots. Corners must be well filled and boxes should be slightly above top and rounded.

Large varieties should be packed in ten-pound boxes, unless otherwise specified. Sour varieties in berry crates. Stamp variety in upper left-hand corner.

GRAPES

Shall be packed in eight-pound baskets; should be carefully laid on slant, stems downward, and baskets must be well filled.

Hemingway's

ARSENATE OF LEAD

A Perfect Product
Properly Packed
Honestly Priced

Guaranteed to meet the requirements of the various State Agricultural Authorities

For Coast Prices and Supplies
Address the Agents

KERR, GIFFORD & CO.
Portland, Oregon

COOPER'S SPRAY FLUIDS

Read what Hood River says

Hood River, Oregon, November 27, 1909.
This is to certify that I have used Cooper's Tree Spray Fluids, V1, for killing San Jose scale and found it very effectual.
G. R. Castner, County Fruit Inspector.

APTERITE
THE SOIL FUMIGANT
DESTROYS INSECTS IN THE GROUND
REDUCES LOSSES SAVES PROFITS
IT WILL PAY YOU TO INVESTIGATE
Write for 1910 booklet (32 pages)
Testimony from fruit growers everywhere

Agent:
C. G. ROBERTS
247 Ash Street Portland, Oregon

Sole Manufacturers:
William Cooper & Nephews
CHICAGO, ILLINOIS

ACID BLAST
ETCHED PLATES
We have installed the only etching machines in the State of Oregon
BLAST ETCHED cuts have a "Printing Quality" which has never before been obtainable with process engraved plates
They Cost the Same as the Other Kind
WE MAKE THE CUTS FOR BETTER FRUIT
Hicks-Chatten Engraving Co.
INCORPORATED
OUR NEW LOCATION IS THE SIXTH FLOOR OF THE
BLAKE-McFALL BUILDING
Fourth and Ankeny Streets, PORTLAND, OREGON

F. W. Baltes & Company invite your inquiries for Printing
SPECIALISTS IN THE ARRANGING AND EXPEDITING OF FINE WORK
Corner of First and Oak Streets Portland, Oregon

IF YOU WANT TO KNOW ABOUT
OREGON
SUBSCRIBE FOR
The Chamber of Commerce Bulletin
The largest commercial magazine in the West
Devoted to upbuilding Oregon and the Pacific Northwest
SUBSCRIBE NOW, $1.50 PER YEAR
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Suite 616 Chamber of Commerce Building
Portland, Oregon

WENATCHEE ADOPTS NEW PACKING REGULATIONS

THE principal fruit shippers at Wenatchee, including the growers associations, have adopted the following rules relating to picking, packing and grading apples:

All boxes shall be stamped with the variety and number of apples the box contains; also with grower's name.

All fall and winter apples shall be packed in standard size boxes; the boxes must be new and clean. The side pieces shall be nailed with four nails in the end of each piece. Both the top and bottom shall be cleated and four nails shall be used in each cleat. Not smaller than five-penny cement nails shall be used throughout. Do the nailing properly.

All boxes shall be lined with paper on the inside and all apples shall be wrapped, unless otherwise specified.

The apples shall be firmly packed in boxes in tiers, and each box shall contain a uniform size of apples. The boxes, after being packed, shall not show more than one and one-half inches or less than one inch bulge on both top and bottom, inclusive. While the apples must be firmly packed so the boxes will be full and the apples secure in their places, the pack must not be so tight as to bruise the fruit.

Apples range from thirty-six to 200 to the box. This year the number of apples the box contains should be stamped on the outside instead of the tiers. This is done so that the retailer will know how many apples are in the box and his cost per apple, or dozen.

All apples must be packed diagonal, with solid sides.

All fall and winter apples shall be graded, in three grades—"extra fancy," "fancy" and "C grade."

Extra Fancy—In this grade all apples shall be sound, smooth, free from worms, worm stings, scale, water core, sun damages or diseases of any kind, and of proper shape according to the variety. No apples smaller than 165's shall be allowed in this grade, nor any apples that are of a red variety that are not at least three-fourths red, except that Rome Beautys one-half red will be taken in this grade. Yellow Newtowns, White Winter, Pearmains, Grimes Golden, Belle Flowers, Winter Bananas and Red Cheek Pippins will be allowed in this grade, but no other variety of yellow apples.

National Irrigation Journal
GOLDEN OPPORTUNITIES IN THE GOLDEN WEST
Edited by Clyde A. Morrison
The leading publication of its kind in the world for the investor, home-seeker, farmer, irrigation companies and agents. Covers the entire subject. Printed on the best grade of paper, with highly embellished cover printed in gold and colors, and a three-color process picture every month illustrative of successful irrigation. Special articles by authorities on irrigation.
Published Monthly. One Dollar a Year
NATIONAL IRRIGATION JOURNAL First National Bank Building, Chicago

Increase Your Profits!

By Using FANCY LABELS on Your Fruit

WE MAKE ALL KINDS OF LABELS, FOLDING BOXES, STATIONERY ETC. FOR THE FRUIT GROWER, SHIPPER AND CANNER.

Write us for Samples and Prices

Schmidt Lithograph Co.

408 WELLS FARGO BLDG. PORTLAND, OREGON.

Winter Bananas and Red Cheek Pippins must show a red cheek.

Fancy—In this grade, also, all apples must be smooth, sound, free from bruises, blemishes, worms, worm stings, water core, sun damages, or diseases of any kind, and of proper shape, according to the variety. No apples smaller than 165's shall be allowed in this grade, excepting apples in the following varieties, which will be accepted when packed as small as 200 apples to the box: Winesaps, Jonathans and Missouri Pippins, when red all over. All apples of red varieties ranging in color from three-fourths red down to one-third red will be included in this grade.

Grade C—This grade shall be made up of all merchantable apples not included in the extra fancy and fancy grades. These apples must be sound and free from bruises, worm stings and other diseases. Skin to be unbroken, but will include mis-shapen apples, or apples having a limb mark or other like defect. This grade will include apples of all colors and as small as 200's, but no smaller. It is optional with the buyer whether this grade is wrapped or not.

◈ ◈ ◈

SOME time ago Deere & Company, the great plow manufacturers of Moline, Illinois, established a department of soil culture. This department is under the management of Dr. W. E. Taylor, a man of high professional attainments and a keen student in agricultural matters, especially along the line of "maintaining and increasing the fertility of farm lands." He has had a ripe experience in matters of this kind and no man in the country is better qualified to carry on the work.

Agricultural colleges and experiment stations are accomplishing much good and have been of untold benefit to the country. The work of Deere & Company's soil culture department will be to take into consideration all that has been accomplished by these public institutions and find just to what extent their recommendations can be put into practice by the farmers of any given community. Necessarily government and state experiments are on a large scale and many farmers have not the means at hand for determining whether or not methods recommended are adapted for their particular locality. A great work can be accomplished by such a department as Deere & Company has organized.

Already three experimental farms are in operation, one in Ohio, one in Maryland and one in Illinois, and others will be established from time to time. Dr. Taylor is going into localities examining the soils and finding out exactly what is necessary in order that the farmers in those localities may secure the best results from their lands. In this way it is possible to bring the benefits of the experimental work heretofore done and the results of investigations now being carried on, directly to the farmer's door in such a way that he can utilize the information, in a practical way, on his own farm. Dr. Taylor will also be pleased to address farmers' conventions and institutes when requested.

In carrying out this great work there is no thought of anything but putting the farmer in position to know what is best for him to do in order to maintain and increase the fertility of his farm. Dr. Taylor has nothing to sell, nor has the department under his control any function other than that indicated by the above statements.

By the way, Deere & Company have a book which they will send to any of our readers free. Their advertisement is in this issue. Find the name and the number of the book in the advertisement and send for it, mentioning the number given in the ad—that is the only way to get it free.

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THE DATES OF STATE AND DISTRICT FAIRS

August 27 to September 12—Canadian National Exhibition, Toronto, Ontario.

September 3-10—California State Fair, Sacramento, California, J. A. Filcher, secretary.

September 5-9—Cambridge Valley Agricultural Society, Cambridge, New York, Eliot B. Norton, secretary.

September 5-9—Nebraska State Fair, Lincoln, Nebraska, W. R. Mellor, secretary.

September 5-10—Minnesota State Fair, St. Paul, Minnesota, C. N. Cosgrove, secretary.

September 6-10—Maryland State Fair, Timonium, Maryland, Jas. S. Nussear, secretary.

September 10-17—Kansas State Fair, Hutchinson, Kansas, S. L. Sponsler, secretary.

September 12-16—Wisconsin State Fair, Madison, Wisconsin, John M. True, secretary.

September 12-16—Indiana State Fair, Indianapolis, Indiana, Chas. Downing, secretary.

September 12-16—South Dakota State Fair, Huron, South Dakota, C. N. McIlvaine, secretary.

September 12-17—Kentucky State Fair, Louisville, Kentucky, J. W. Newman, secretary.

September 12-16—West Virginia State Fair, Wheeling, West Virginia, Geo. Hook, secretary.

September 12-17—Oregon State Fair, Salem Oregon, Frank Meredith, secretary.

September 12-17—New York State Fair, Syracuse, New York, S. C. Shaver, secretary.

September 13-16—Western Vermont Agricultural Society, Fair Haven, Vermont, Dr. J. F. Wilson, secretary.

September 19-23—Michigan State Agricultural Society, Detroit, Michigan, I. H. Butterfield, secretary.

September 19-24—Walla Walla County Fair, Walla Walla, Washington, R. H. Johnson, secretary.

September 19-24—Tennessee State Fair, Nashville, Tennessee, J. W. Russwurm, secretary.

September 21-23—Freeborn County Society, Albert Lea, Minnesota, O. M. Peterson, secretary.

September 20-24—Southern Oregon Society, Roseburg, Oregon, Frank G. Micelli, secretary.

September 26-30—Inter-State Fair, Trenton, New Jersey, M. R. Margerum, secretary.

September 26 to October 1—B. C. Association, Victoria, British Columbia, George Sangster, secretary.

September 26 to October 1—Inter-State Livestock and Horse Show, South St. Joseph, Missouri.

September 26 to October 1—Montana State Fair, Helena, Montana, Martin Martin, secretary.

September 26 to October 1—Washington State Fair, North Yakima, Washington, Jno. W. Pace, secretary.

September 27 to October 8—State Fair Association of Oklahoma, Oklahoma City, Oklahoma, I. S. Mahan, secretary.

September 30 to October 8—Illinois State Fair, Springfield. Illinois, J. K. Dickinson, secretary.

October 10-15—Idaho Inter-Mountain Fair, Boise, Idaho, Will H. Gibson, secretary.

October 1-7—Missouri State Fair, Sedalia, Missouri, John T. Stinson, secretary.

October 3-8—Spokane Inter-State Fair, Spokane, Washington, R. H. Cosgrove, secretary.

October 3-8—Utah State Fair, Salt Lake, Utah, Horace S. Ensign, secretary.

October 6-15—Alabama State Fair, Birmingham, Alabama, F. P. Chaffee, secretary.

October 10-15—Arkansas State Fair, Hot Springs, Arkansas, Geo. R. Belding, secretary.

October 10-15—Lewiston-Clarkston Fair—Lewiston, Idaho, C. W. Mounts, secretary.

October 15-30—State Fair of Texas, Dallas, Texas, Sidney Smith, secretary.

October 17-22—North Carolina State Fair, Raleigh, North Carolina, Jos. E. Pogue, secretary.

GO! GO! GO!

Portland Race Meet, Live Stock Show and Harvest Home Fair, September 5-10

Bankers' purse of $10,000 for trotters; hotel purse of $5,000 for pacers. Special features every day. Wednesday and Thursday are the big days. Auto races, balloon ascensions, any number of free entertainments. Special prizes for flights of amateur aeronauts in their own aeroplanes. Greatest exhibition of fat stock ever held west of the great divide. A great Midway. Not an idle minute in the week. All entrance tickets are numbered. The lucky winner gets a pony and cart or $200 in cash. Reduced railroad rates; ask your local agent.

◈ ◈ ◈

Palisade, Colorado, June 15, 1910.

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TWO MAGNIFICENT BOOKS.—"On the Wings of the Wind Through Wonderland" sounds like the announcement of an aerial excursion into the unexplored regions of Paradise. It is in fact, however, a combination of the titles of two really magnificent pieces of literature just now being put out by the Northern Pacific Railway. "Through Wonderland" is a gorgeous seventy-two page book, embellished with a handsome colored cover embossed in gold. The Grand Canyon of the Yellowstone stands out in all the attractiveness of artistic color-process printing and invites to a closer inspection of the book. Inside the cover lies no disappointment, for beautifully colored views are crowded thickly throughout, while each page bears a soft gray border illustration depicting bits of the park landscape, animals, geysers, etc. Seldom does one see a more elaborate book upon the counters of the book stalls, and never before has a more exquisite and expensive publication been issued by a railroad for free distribution. Of a character to rival the Yellowstone Park book in compelling allurement is the second work entitled, "On the Wings of the Wind." This describes and pictures Northern Pacific passenger, freight and express service, showing car interiors and exteriors, and the sights and scenes through which the road extends. The border ornamentations, in buff, gray and brown, are delightful and give a life and a color to the pages such as to entice to a constant perusal. The cover is a soft gray blending of a myriad of winged "Monads"—the Monad being that mystic Chinese emblem seen in the center of the Northern Pacific trademark. A feature of the cover is a colored panel showing an attractive bit of mountain scenery just at sunset, through which a brilliantly lighted train is skirting the bank of a dashing stream and piercing the dense shadows of overhanging cliffs. Diagrams of cars, a comprehensive description of the service and the dining car facilities, etc., combine to make the book practical as well as beautiful. Copies of either book may be obtained from the general passenger office of the Northern Pacific in St. Paul by enclosing six cents in stamps to cover postage.

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Railway men say the colonist movement westward in 1910 will be unprecedented. Thousands are harkening to the call and fortunes are being made now by the early arrivals. New railroads are opening up vast, almost limitless new territory. Let us tell you about it. Send 25 cents in stamps for information.

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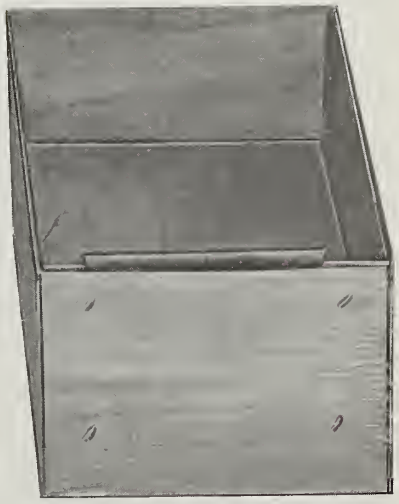
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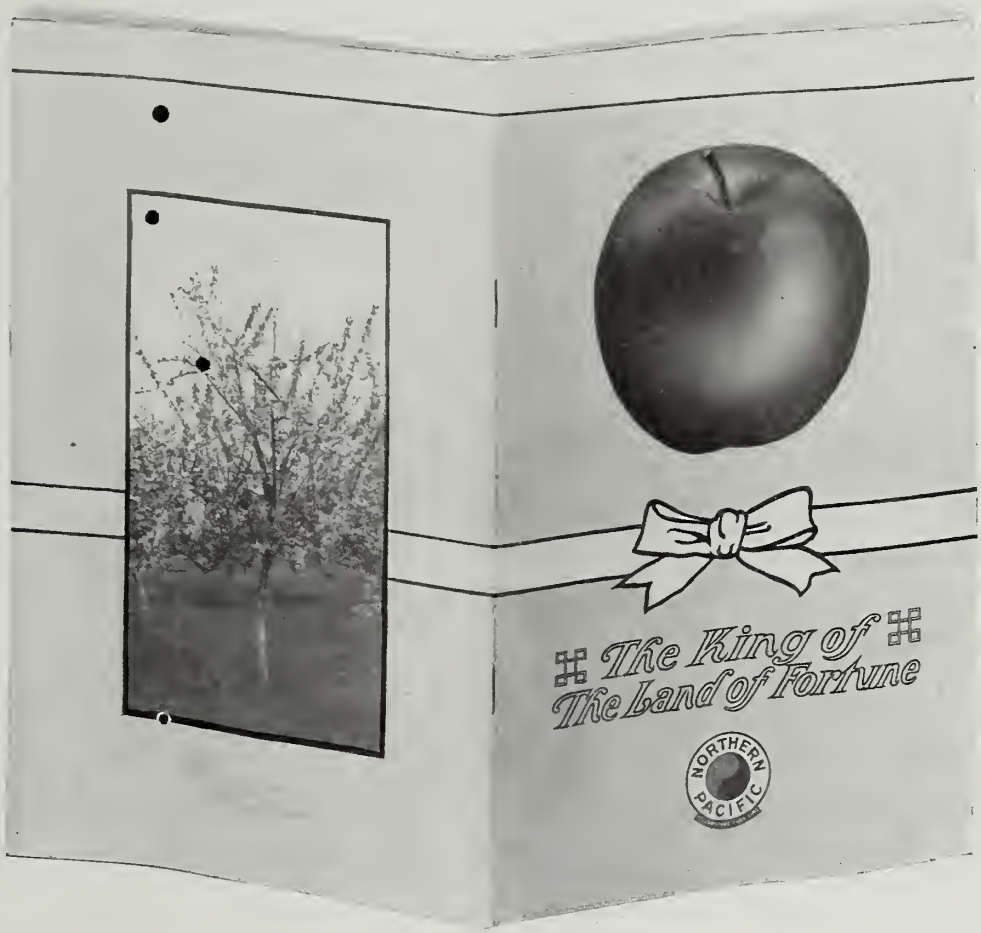

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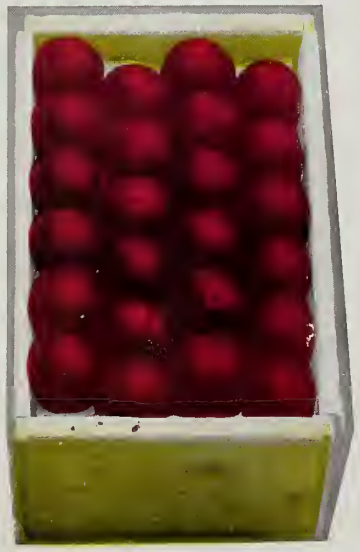

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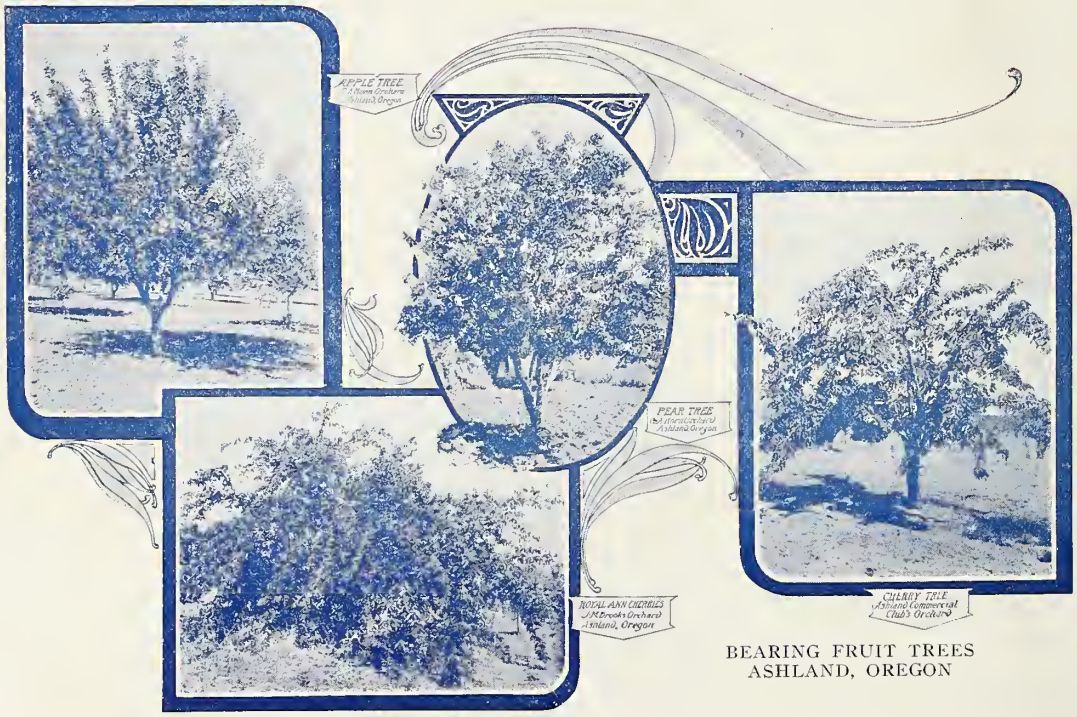

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